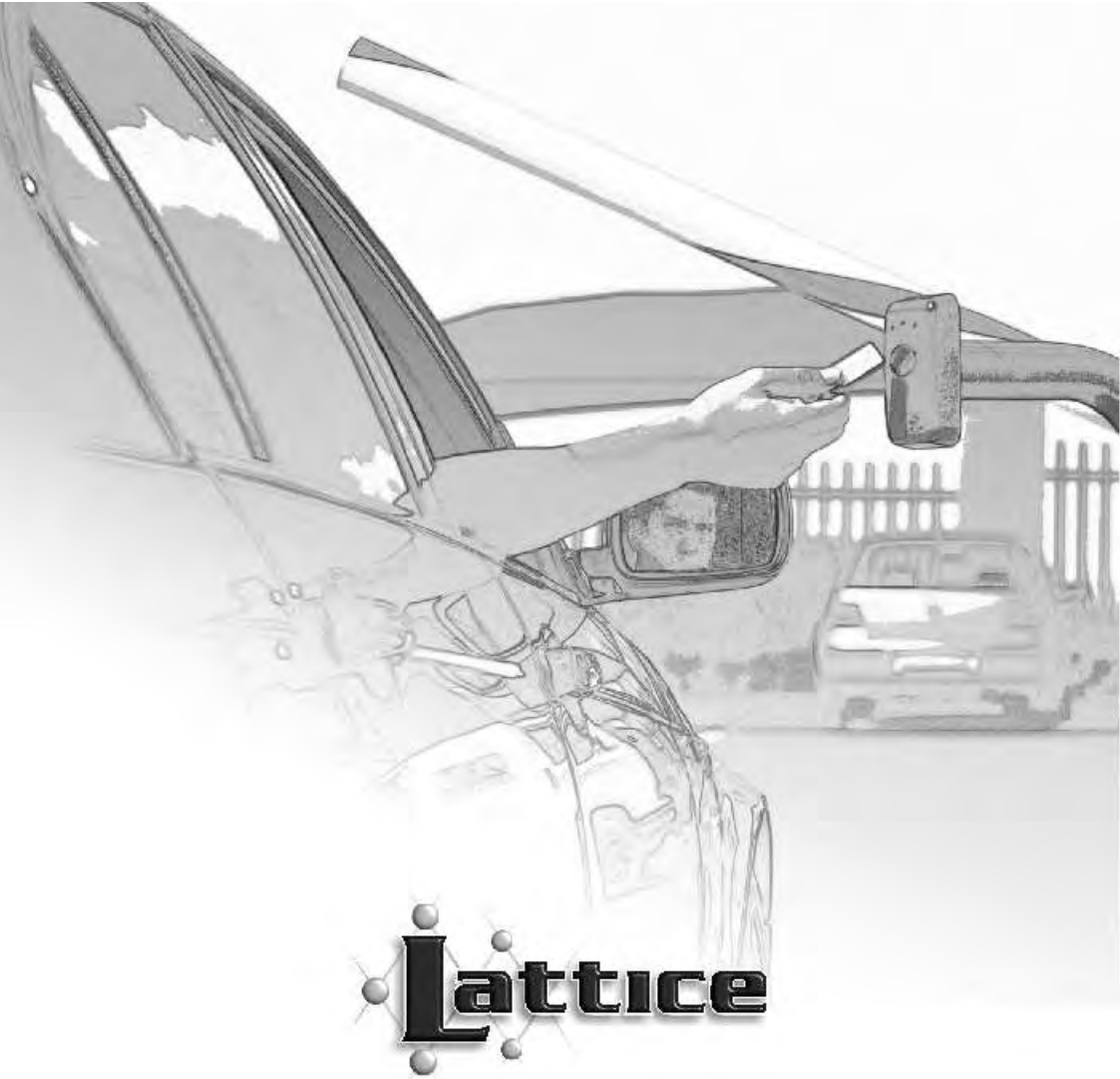


Lattice

NETWORK PROXIMITY ACCESS CONTROL

INSTALLATION MANUAL

Company Profile

CENTURION SYSTEMS has been manufacturing automatic gate systems since 1987, and is committed to providing reliable, cost effective solutions in the field of access automation.

CENTURION strives to give service and backup second to none. Our engineers are available to give sales support, installation training, and answers to technical or installation problems.

The equipment is installed worldwide and is available through a network of distributors.

CENTURION is an ISO 9001 registered company, continually looking at updating its products in line with world trends to ensure that its products will provide customer satisfaction.

Further information is available on our website www.centsys.co.za

© CENTURION SYSTEMS (PTY) LTD 2005

Centurion Systems (Pty) Ltd. reserves the right to make changes to the products described in this manual, without notice and without obligation of Centurion Systems (Pty) Ltd. to notify any persons of any such revisions or changes. Additionally, Centurion Systems (Pty) Ltd. makes no representations or warranties with respect to this manual.

No part of this document may be copied, stored in a retrieval system or transmitted in any form or by any means electronic, mechanical, optical or photographic, without the express prior written consent of Centurion Systems (Pty) Ltd.

Table of Contents

Company Profile 2
Introduction 4
What is Proximity Tag Technology 5
Specifications 7
Tools & Equipment Required 8
Installation of the Lattice Reader 9
Installing the Lattice System 12
- Identification of Terminals 12
- Summary of Possible Connections 13
- Take Up Head 13
- Wiring Diagrams 14
- Connection of Lattice Slave Heads (LSH) 17
- Setting the Lattice Slave Head Address 19

Programming the Lattice System 20
- First Time Operation 20
- Programming the System 20
- Getting into Programming Mode 22
- Basic Menu 23
  - Quik Learn 23
  - Basic Learn 25
  - Basic Delete 26
  - Basic Configure 27
- Advanced Menu 29
  - Quik Learn 29
  - Normal Learn 30
  - Delete Menu 35
- Installation Mounting Template . . . . . can be found between 36 & 37
  - Configure Menu 38
  - Update Menu 47
  - Copy Menu 54
  - Template Menu 57

Display Abbreviations 62
Icons and Symbols 65
Additional References 66
Revision History 67
Installation Details 68
Notes 69

Introduction

The Centurion Lattice system is a simple access control system with the ability to run in both stand-alone and networked mode with up to 1000 tags.

The heart of the system comprises the L1000 Controller. This unit can operate as a stand-alone reader, or as a controller in a networked system.

For added functionality the L1000 can be linked via a RS485 network to 31 additional reader heads known as Lattice Slave Heads (LSH s).

In addition to the 31 LSH's there is also a Take Up Head (TUH) whose function is to link the RS485 network to a computer (or computer network). The TUH is attached to the L1000 Controller via a communication cable. The TUH also acts as a tag reader. The ideal position for the TUH is near the person maintaining the system as new tags can be added and maintained easily.

The L1000 has a 3 digit, 7-segment LED display used with an **"Admin"** tag to programme the L1000 as well as any LSH's linked to the system. The display brightness can be varied to suit ambient conditions. Under normal running conditions the display of the L1000 will indicate the 3 digit ID number of the tag. A buzzer also sounds momentarily to indicate that the tag has been read by the reader. The LSH s have a simpler display comprising only 3 LED's and a buzzer to indicate status. The buzzer can be configured to be silent.

7 levels of anti-passback control are available in the networked version. Each reader is capable of storing four separate counter values which decrement each time a valid tag is presented. This provides a method of controlling how many times a person may use a particular asset (e.g. photostat machine, sauna, etc).

Complex programming of the system can be done using only a single **"Admin"** tag, but a sophisticated software system, called Lattice Ware (refer to page 66), is preferable as it provides an intuitive, graphical user interface (GUI), via a connected laptop, or personal computer (PC). Lattice Ware provides sophisticated reporting as well as features and functionality not available without the computer. For example, if the Lattice system is linked to an office network it is possible by means of a process known as "remoting" to use networked computers to access certain functionality. A security guard could have a PC in his guard house, and each time a tag is presented at the entrance, a photograph of the tag's correct owner would flash up on his screen as confirmation that the tag is being used by the correct person. (For full details, see the separate installation manual for the Lattice Ware software system).

The Lattice Ware system uses the freeware Firebird database which needs no license. Other databases such as MySQL can also be used if required.

All of the readers operate on the new 13.56 MHz RFID norm which is likely to become the benchmark in the future. This standard means tags are relatively inexpensive, give good read ranges and can offer, optionally, read-write capability.

The Centurion Zap Tag is a perfect combination between a card and a tag. A label, with photograph if required, can be fitted behind a plastic cover to provide tag identification.

Both flush and surface mount readers are available. The flush mount unit fits perfectly into a standard, wall-mounted, light-switch box.

What is Proximity Tag technology?

The word "proximity" means "close to" or "near". Thus a tag has only to be brought "near" or within a certain range of the reader before it is read. There is no physical contact between tag and reader. The read distance is typically in the range 60 to 100 mm.

The system uses RFID (Radio Frequency IDentification) technology. The reader has an antenna which sends out a weak radio signal. The tag also has an antenna (a small coil) that receives the reader signal as soon as it is in range. The tag absorbs some of the energy from the reader signal and powers up the electronic circuit on the tag. There is no battery in the tag and it is thus known as a "passive" tag. An "active" tag has a battery and is used in applications requiring greater "read" ranges.

The electronics of the tag reads the unique serial number of the tag and transmits this serial number, back to the reader.

The reader receives the signal and checks to see if the tag serial number is one that is stored within its memory as a "valid" tag. If the tag is valid the reader operates a relay to unlock a door, open an automatic gate, or switch on some device. Instead of tags one can also have credit card sized cards. The principle of operation is identical. Centurion has concentrated on the passive plastic tag instead of the card which is bigger and bulkier.

Basic concepts

Before describing the L1000 system in detail some basic terms and concepts are explained.

L1000 Controller: The "Master" controller in the system which can be used as a standalone reader head, or can be interfaced with remote slave heads.

Lattice slave head (LSH): A Lattice slave head is an auxiliary head that must be networked to a L1000 Controller head using a RS 485 network. Up to 31 LSH's can be linked to a single L1000. A remote slave head cannot operate as a stand alone head although it has the capability to respond to a maximum of 40 "supervisor" tags in an off-line situation.

Take up head: A tag reader which also creates the interface between the L1000 and a computer running Lattice Ware software.

Site: A site is defined as the geographical area where the L1000 access control system is located. E.g. Bryanston School, Durban Branch office, etc.

Network: A network is defined as a single L1000 and its TUH and LSH s.

Area: An area is a physical area in which personnel work, or into which, or through which, they move. E.g. Sales area, passage, classroom, etc. It is possible to have infinite areas at a site, but access to only 16 can be effectively controlled with the L1000 system. (The L1000 has a maximum of 32 readers split between 16 entrance, and 16 exit, readers)

Zone: A zone is defined as an area, (or areas), which form a security level (or hierarchy). Thus, it is possible to move through several areas, but remain in the same zone. Only 7 different zones are allowed, but each tag (or user) can have its own series of zones associated with it. Thus an entrance lobby, passage and office 1 could be defined as zone 1 for user 1, whereas the entrance lobby and passage could be zone 1 for user 2, and office 2 might be defined as zone 2. Anti-pass back levels (defined below) operate between zones.

The word "proximity" means "close to" or "near". Thus a tag has only to be brought "near" or within a certain range of the reader before it is read. There is no physical contact between tag and reader. The read distance is typically in the range 60 to 100 mm.

The system uses RFID (Radio Frequency IDentification) technology. The reader has an antenna which sends out a weak radio signal. The tag also has an antenna (a small coil) that receives the reader signal as soon as it is in range. The tag absorbs some of the energy from the reader signal and powers up the electronic circuit on the tag. There is no battery in the tag and it is thus known as a "passive" tag. An "active" tag has a battery and is used in applications requiring greater "read" ranges.

The electronics of the tag reads the unique serial number of the tag and transmits this serial number, back to the reader.

The reader receives the signal and checks to see if the tag serial number is one that is stored within its memory as a "valid" tag. If the tag is valid the reader operates a relay to unlock a door, open an automatic gate, or switch on some device. Instead of tags one can also have credit card sized cards. The principle of operation is identical. Centurion has concentrated on the passive plastic tag instead of the card which is bigger and bulkier.

Basic concepts

Before describing the L1000 system in detail some basic terms and concepts are explained.

L1000 Controller: The "Master" controller in the system which can be used as a standalone reader head, or can be interfaced with remote slave heads.

Lattice slave head (LSH): A Lattice slave head is an auxiliary head that must be networked to a L1000 Controller head using a RS 485 network. Up to 31 LSH's can be linked to a single L1000. A remote slave head cannot operate as a stand alone head although it has the capability to respond to a maximum of 40 "supervisor" tags in an off-line situation.

Take up head: A tag reader which also creates the interface between the L1000 and a computer running Lattice Ware software.

Site: A site is defined as the geographical area where the L1000 access control system is located. E.g. Bryanston School, Durban Branch office, etc.

Network: A network is defined as a single L1000 and its TUH and LSH's.

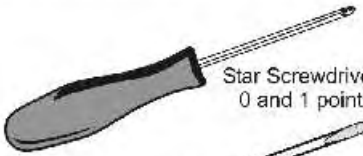
Area: An area is a physical area in which personnel work, or into which, or through which, they move. E.g. Sales area, passage, classroom, etc. It is possible to have infinite areas at a site, but access to only 16 can be effectively controlled with the L1000 system. (The L1000 has a maximum of 32 readers split between 16 entrance, and 16 exit, readers)

Zone: A zone is defined as an area, (or areas), which form a security level (or hierarchy). Thus, it is possible to move through several areas, but remain in the same zone. Only 7 different zones are allowed, but each tag (or user) can have its own series of zones associated with it. Thus an entrance lobby, passage and office 1 could be defined as zone 1 for user 1, whereas the entrance lobby and passage could be zone 1 for user 2, and office 2 might be defined as zone 2. Anti-pass back levels (defined below) operate between zones.

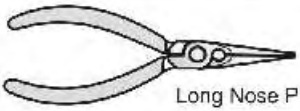
Specifications

Physical	
Supply Voltage	10 - 12VAC 12-15VDC
Standby Current	50mA
Maximum Current	180mA
Operating Temperature	-20°C to 50°C
Operating Humidity	0-90% non condensing
Tag Frequency	13.56 MHz
Housing Material	ABS UV Stabilised
Degree of Protection	IP 55
Dimensions	
Surface Mount	129H x 90W x 29D
Flush Mount	125H x 85W x 16D
Outputs/Inputs	
Output channel	Single output selectable as relay (NC or NO) or open collector
Relay rating	50V @ 3A non inductive (N/C, COM, N/O)
Open collector rating (CHD)	50mA@24V (CHD)
Door open/forced output (ALARM)	50mA@24V (ALARM)
SmartSwitch II power output	200mA (CHD+)
Free exit input	Potential free normally open contact (FRX)
Door sense input	Potential free normally closed contact (DOOR SEN)
Anti-tamper switch	Potential free normally closed contact (Optional extra)
Operational	
Tag capacity	1000 tags
Tag read range	80 - 100mm
Alarm output time(s)	0 - 254 Adjustable in 1 second increments

Tools and Equipment Required

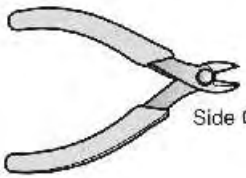


Star Screwdriver
0 and 1 point



Long Nose Pliers

Flat Screwdriver
- 2.5mm point
Jewellers Type

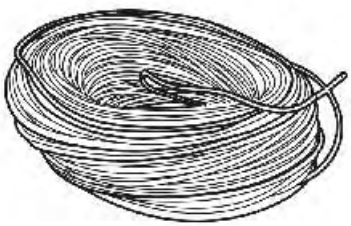


Side Cutters

Tape Measure

Silicon

Level



Cable: 0.20mm²
0.50mm²
0.75mm²

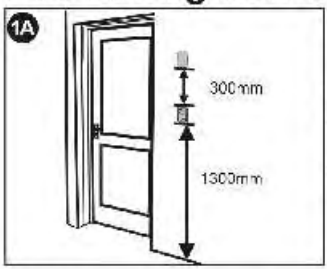
Multi-Meter

5mm
Masonry Bit

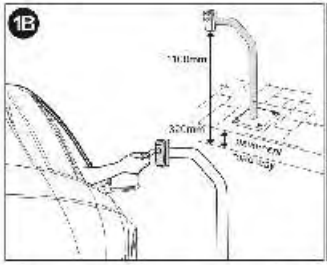
Drilling Machine
(hammer action)

Installation of the Lattice Reader

Positioning the Reader



- Position LATTICE reader on wall adjacent to door. Mount at a height that allows for the comfortable presenting of access tags. A height of 1300mm is recommended.
- If a second reader is mounted on the inside of the door, it must be spaced at least 300mm above or below the outside reader to prevent interference.



- Alternatively mount the proximity reader onto a gooseneck ensuring that:
  - The reader does not protrude too far into the driveway
  - The reader is not set too far back and cannot easily be accessed from a vehicle.
  - The height allows for the presenting of the tag to be comfortable from a vehicle.

  An anti-knock shield is available from CENTURION to provide extra protection to the LATTICE reader.

- Position the LATTICE reader on wall adjacent to entrance gate. Mount at a height that allows for the comfortable presentation of access tags. A height of 1300mm is recommended.

Mounting the Reader

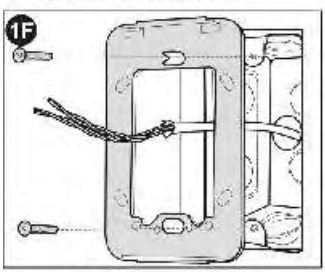
The LATTICE Prox reader is available in a flush mount kit and a surface mount kit.

When flush mounting, the reader adapts directly to a standard 100mm x 50mm (4" x 2") light switch backing box which allows the unit to sit flat against the wall.

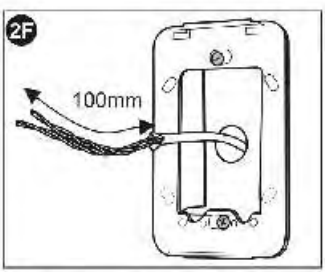
Alternatively, if no backing box has been provided the unit can be surface mounted.

When mounting the reader onto a gooseneck with, or without, an anti-knock shield, the surface mount kit will be used.

Flush Mount

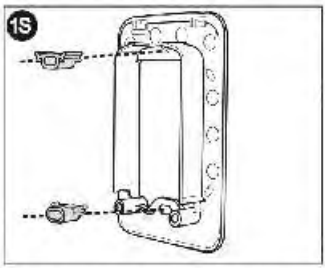


- Insert the reader mounting frame into position in the backing box and secure using the standard fixing screws provided with the backing box.

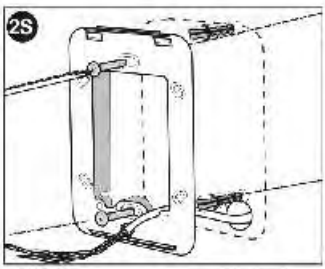


- It is recommended that the cabling to the reader extends at least 100mm through the frame.

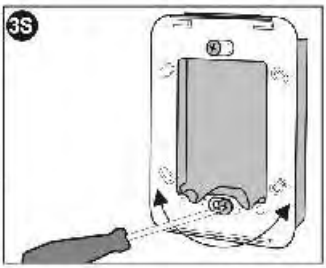
Surface Mount



- Clip the plastic spacers onto the back of the mounting frame ensuring that they are correctly orientated to align with the mounting holes.

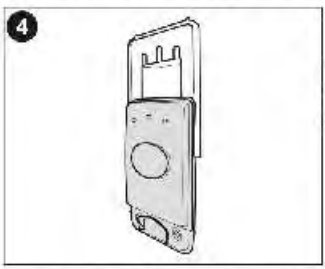


- Place the mounting template located in the centre of this document at the required height ensuring that it is vertical
- Using a 5mm masonry bit, drill holes into the wall for the rawlplugs provided in the kit.
- Screw the frame lightly into position.

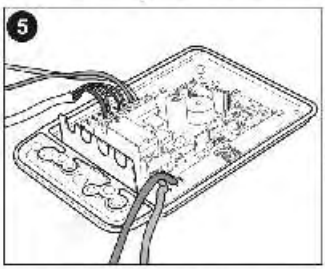


- Using the slots provided in the mounting holes, adjust the reader base to be perfectly vertical.
- Screw the frame firmly into position.

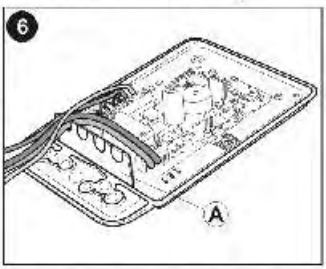
Installation of the Reader (Flush or Surface Mount)



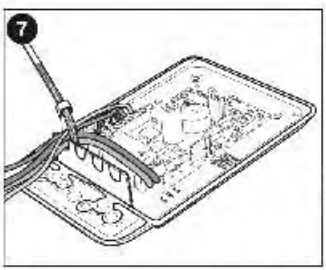
- Slide apart the front and back of the reader controller housing.



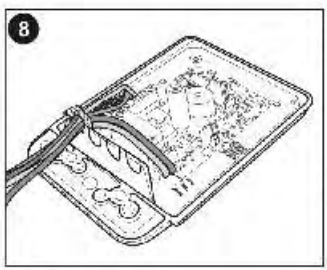
- Make the necessary terminations onto the controller. Refer to wiring diagram on pages 14-16.



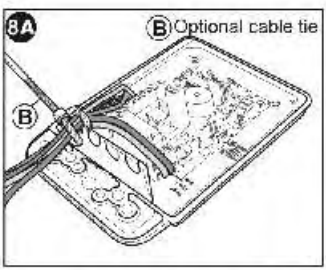
- Route the cable over the cable entry bulkhead (A) in the housing. Additional slots can be cut out to accommodate further cables if necessary.



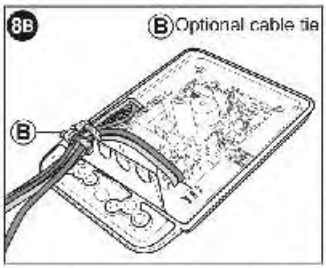
- Fit a cable tie around the cable as shown. When tightened this holds the cable in position and prevents it from being pulled out of the housing.



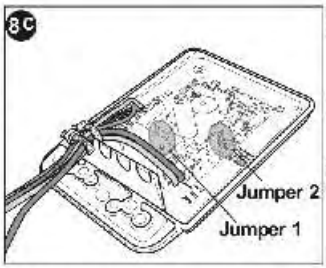
- Tighten cable tie.



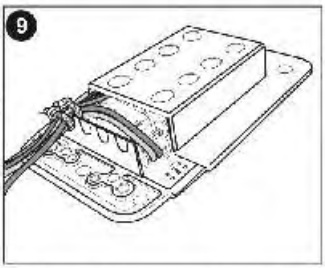
- An additional cable-tie can be fitted to better secure the cable.



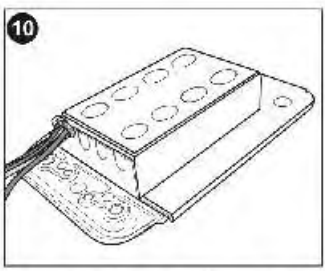
- If the additional cable tie was used, make certain that it is also tightened.



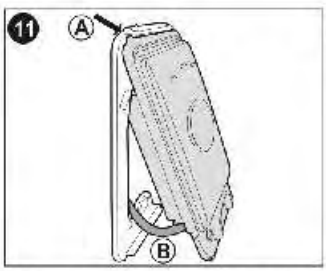
- Ensure Jumpers 1 and 2 are correctly positioned - refer to Figure 1 on page 12.



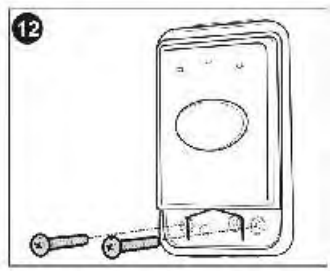
- Slide the back cover onto the controller housing.



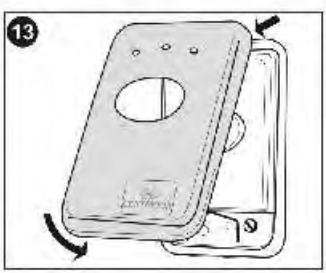
- Ensure that it sits neatly against the cable entry bulkhead securing the cable. To prevent insect ingress use either a grommet or a dab of silicon to seal the cable entry point.



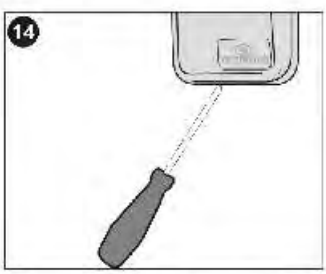
- Clip the top of the controller front housing into the top lip of the mounting frame (A), and fold down into position ensuring the cable is not caught (B).



- Fasten controller housing into position using the 2 x M4 pan head screws provided in the kit.



- Clip the outer cover into position making sure that it seats correctly and is secure.



- To remove the outer cover, carefully insert a screwdriver between the cover and the wall from the underneath and unclip.

Installing the Lattice System

The L1000 can be installed in 3 different configurations:

- as a stand-alone head
- as a stand-alone head, but linked to a computer via a Take Up Head (TUH)
- as a fully networked system using up to 31 Lattice Slave Head (LSH's) and a TUH.

Before connections are made to the unit it is necessary to identify the terminals of the various units and their functions.

Identification of Terminals:

The following sketches show the location of the terminal blocks on the L1000 and slave head (LSH) printed circuit boards (PCB's). The reader must be configured for either steel or masonry/wood mounting. Incorrect configuration will result in poor read range or unreliable operation.

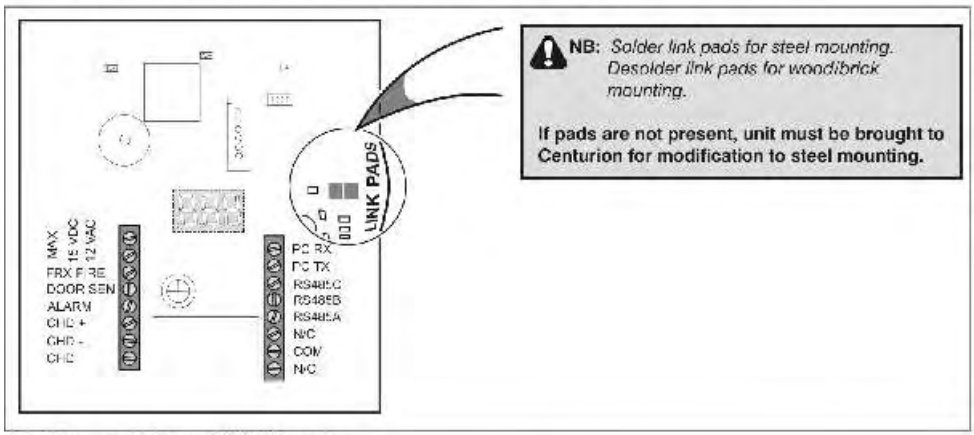


Fig 1 Layout of Lattice L1000 Controller

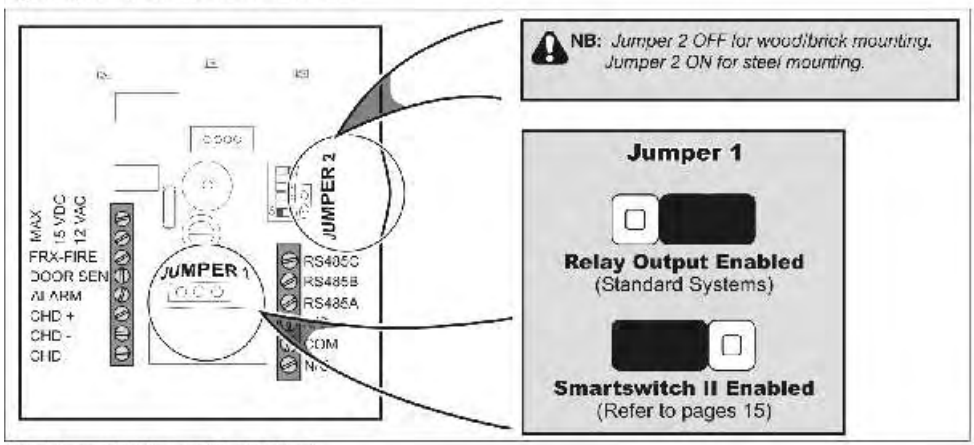


Fig 2 Layout of Lattice SLAVE head

The L1000 can be installed in 3 different configurations:

- as a stand-alone head
- as a stand-alone head, but linked to a computer via a Take Up Head (TUH)
- as a fully networked system using up to 31 Lattice Slave Head (LSH's) and a TUH.

Summary of Possible Connections	
Terminal Reference	**Description**
15 VDC	Supply to the device can be AC, or DC, but must not exceed 15VDC or 12V AC
12 VAC	
FRX-FIRE	Free exit (or Fire) normally open, voltage free contact. Common connected to (CHD-)
DOOR SEN	Voltage free contact; closed when door is closed. Common connected to (CHD-)
ALARM	External Alarm output (open collector).Positive connected to (CHD+).Maximum current 50mA
CHD+	Smart Switch II positive (+12V DC)
CHD-	Smart Switch II negative (system common terminal)
CHD	Smart Switch II drive (open collector)
*PC RX	Communication to take up head (Receive)(P2)
*PC TX	Communication to take up head (Transmit)(P1)
RS485C	RS485 common
RS485B	RS485 signal line B (twisted pair, CAT 5)
RS485A	RS485 signal line A (twisted pair, CAT 5)
N/C	Output relay (normally closed, voltage free)
COM	Output relay (common, voltage free)
N/O	Output relay (normally open, voltage free)

Table 1 showing Description of Terminal References

* - These terminals only on L1000, not LSH

Identification of the Take Up Head (TUH)

Wiring Diagrams

The following diagrams apply to both the L1000 Controller and the Lattice slave heads (unless otherwise stated)

Power Supply to L1000 or LSH

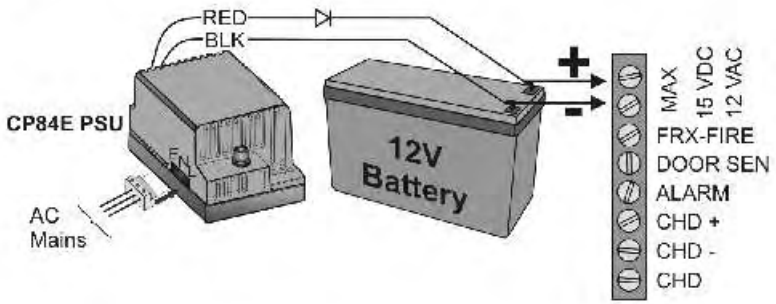


Fig 3 Power Supply to L1000 or LSH

NOTE: Polarity of the input voltage is not critical.

Free Exit, Door Contact and External Alarm Wiring

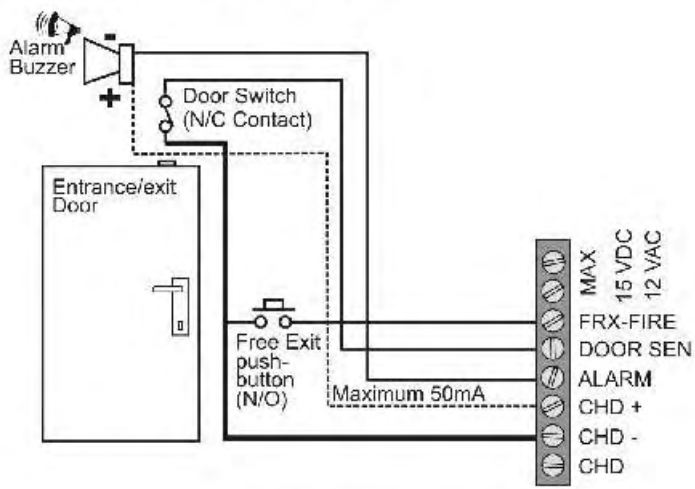


Fig 4 Typical wiring for Free Exit Pushbutton, Door Contact and External Alarm buzzer

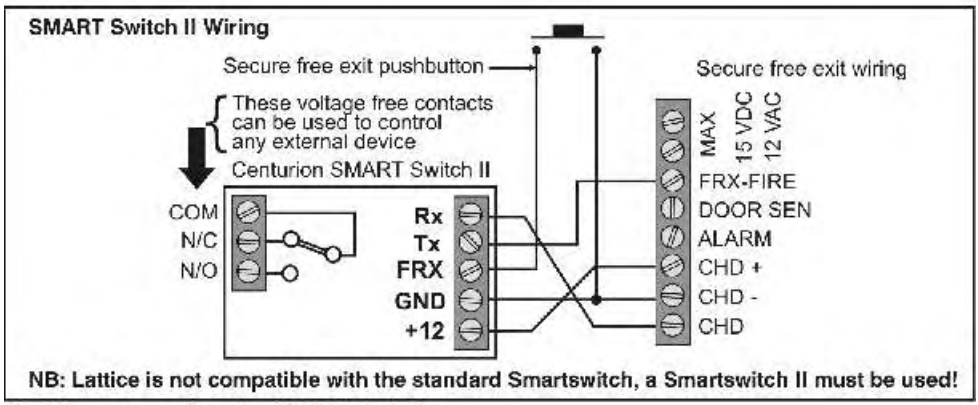


Fig 5 Connection to Centurion SMART Switch II

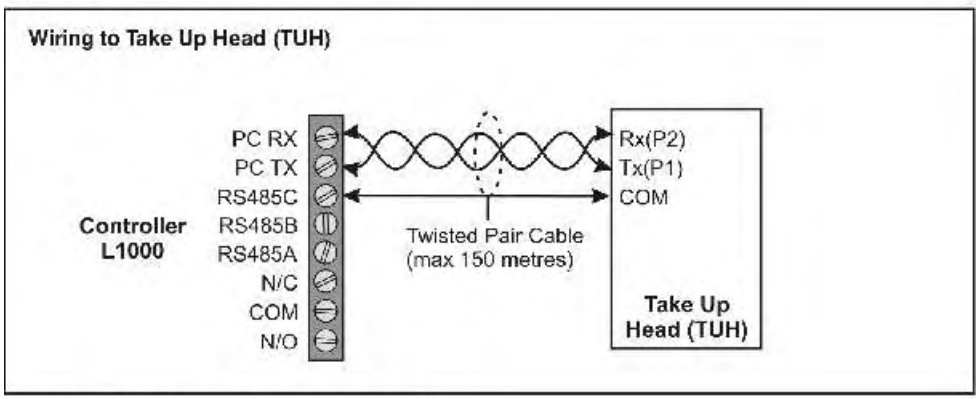


Fig 6 Wiring from L1000 (only) to Take Up Head

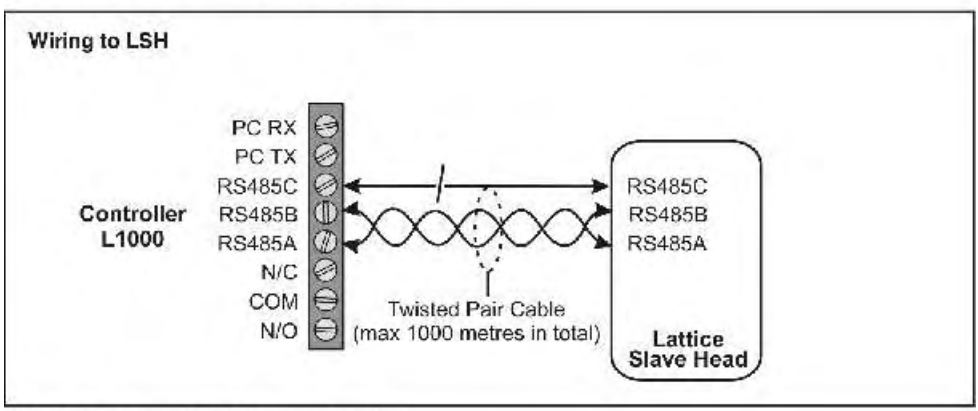


Fig 7 Wiring from L1000 to Lattice Slave Head

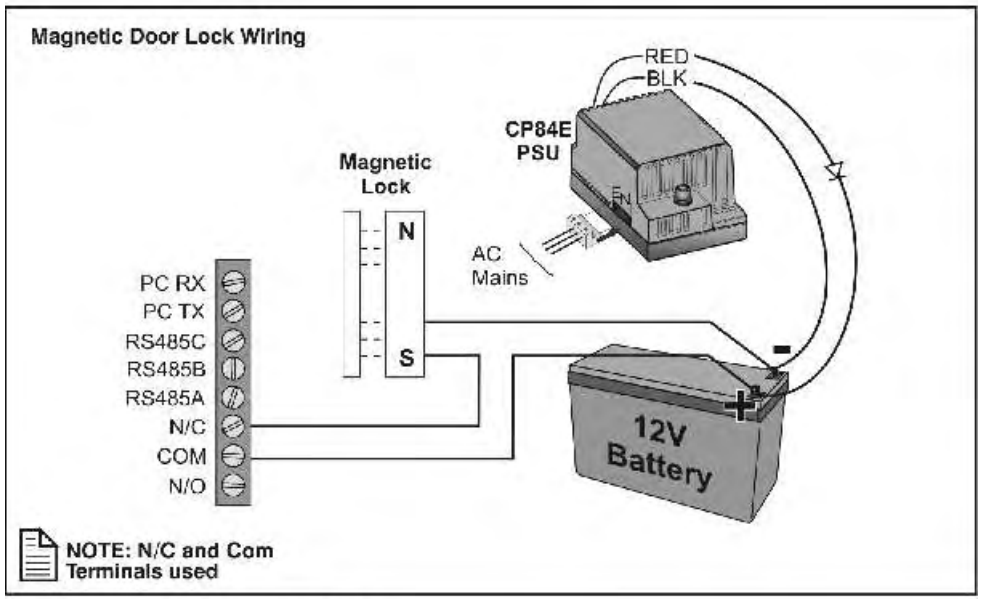


Fig 8 Wiring to a magnetic type door lock

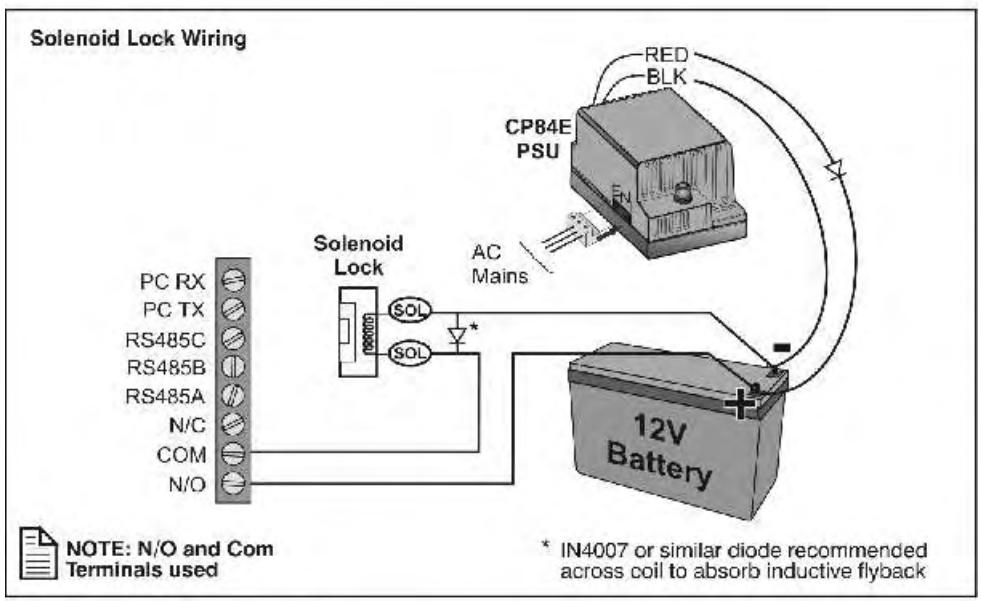


Fig 9 Wiring to a solenoid type door lock

Connection of Lattice Slave Heads (LSH's)

When connecting the L1000 to a series of LSH's it is critical to make sure that the RS485 network cables are correctly wired and terminated.

Any RS485 Network needs the following:

- There must be termination matching resistors of 100 Ohms at each end of the cable.
- The cable should be twisted. Screened, CAT 5 cable is recommended
- The total length of the cable must not exceed 1000 meters

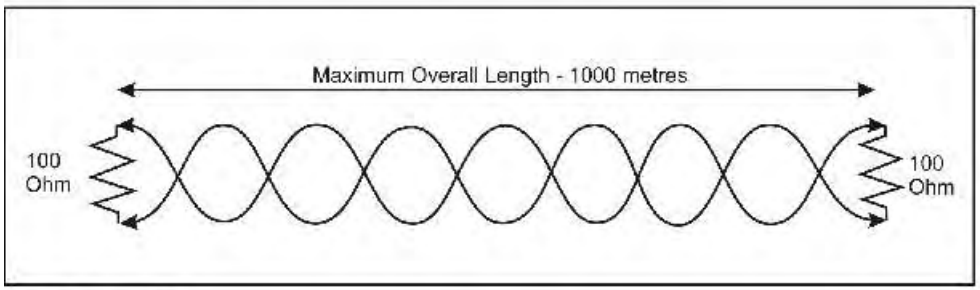


Fig 10 Twisted Cable

The L1000 and the RSH have 100 ohm resistors built into them and thus all that has to be done is to decide which two devices happen to be at the end of the line and those resistors are then switched into circuit. It is critical that ONLY the end two units have the end-of-line (EOL) resistors switched into circuit.

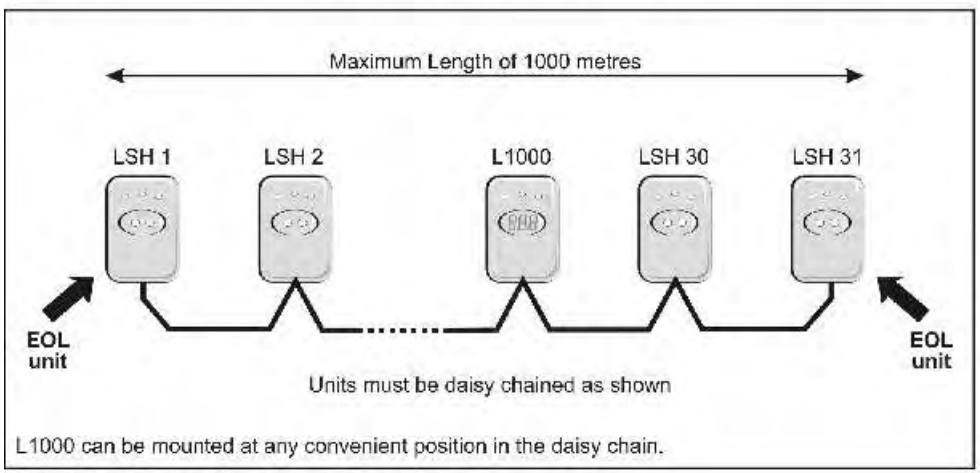


Fig 11 Sketch showing daisy chaining of connected units

The EOL switches on the L1000 and LSH's are located as shown in the sketches below:

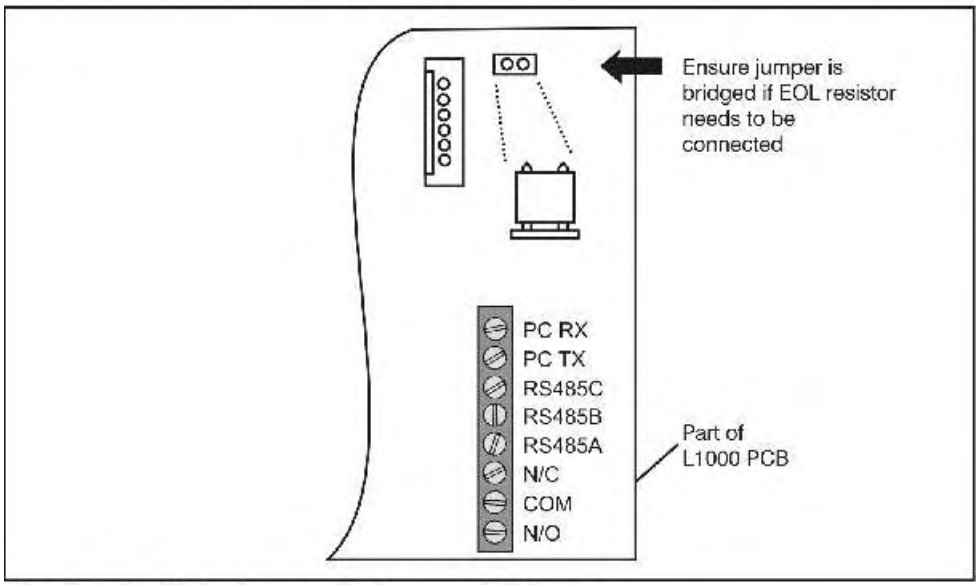


Fig 12 Part of L1000 showing jumper link that turns on EOL Resistor

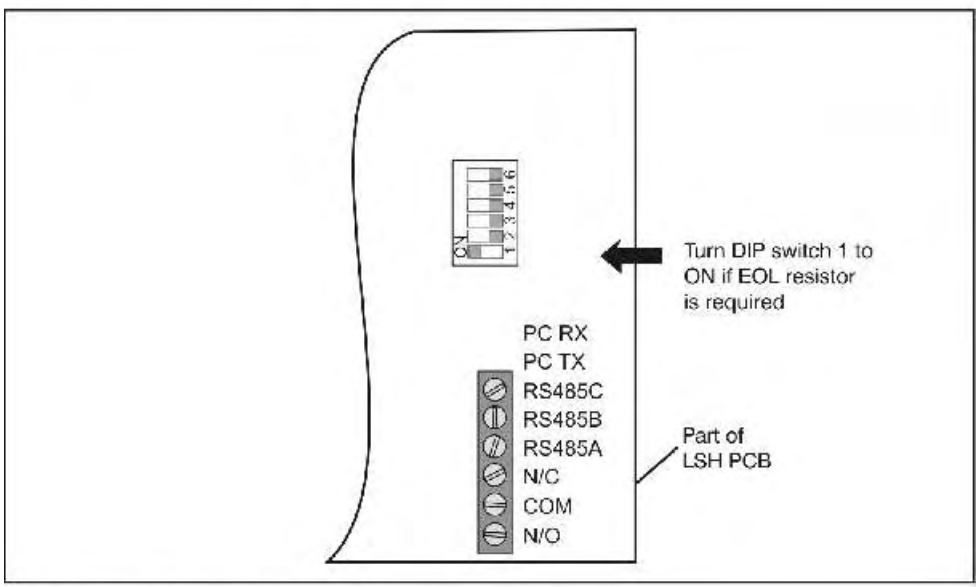


Fig 13 Part of LSH showing DIP switch that turns on EOL resistor

Setting the Lattice Slave Head Address

To be able to identify different remote slave heads on the network is necessary to set a unique address on each head. This is done using switches 2-6 of the 6 way DIP switch mounted on the LSH. (See Figure 13) The table below shows the DIP switch settings corresponding to the LSH number. (0=OFF; 1=ON)

LSH	Sw 2	Sw 3	Sw 4	Sw 5	Sw 6
1	0	0	0	0	1
2	0	0	0	1	0
3	0	0	0	1	1
4	0	0	1	0	0
5	0	0	1	0	1
6	0	0	1	1	0
7	0	0	1	1	1
8	0	1	0	0	0
9	0	1	0	0	1
10	0	1	0	1	0
11	0	1	0	1	1
12	0	1	1	0	0
13	0	1	1	0	1
14	0	1	1	1	0
15	0	1	1	1	1
16	1	0	0	0	0
17	1	0	0	0	1
18	1	0	0	1	0
19	1	0	0	1	1
20	1	0	1	0	0
21	1	0	1	0	1
22	1	0	1	1	0
23	1	0	1	1	1
24	1	1	0	0	0
25	1	1	0	0	1
26	1	1	0	1	0
27	1	1	0	1	1
28	1	1	1	0	0
29	1	1	1	0	1
30	1	1	1	1	0
31	1	1	1	1	1

Table 2 DIP Switch Settings for LSH address

Programming the Lattice System

First Time Operation

When the L1000 is powered up the display momentarily displays the firmware revision number.

Once powered up, the display flashes a single bar of the centre 7-segment display every 2 or 3 seconds to indicate that the unit is in normal run mode. In a dark room it also acts as a means of locating the reader. The display typically shows the following:

Present and remove any tag which is to be defined as the **"Master"** tag. This tag now becomes the **"Admin"** tag. **"Ad1"** will be displayed to indicate that this "**Admin**" tag is being presented to the L1000 reader. It is possible to create multiple "**Admin**" tags as will be shown later.

Admin Tag (Type 1)

Any other **"unlearned"** tags presented to the system will display NIC **(NOT IN CONTROLLER)** as follows:

Programming the System

The system can be completely programmed from the L1000 Controller using a single **"Admin"** tag and the 3 digit, 7-segment LED display. (Incidentally, it is easier to programme, and more functionality is provided, if the Lattice-Ware software is used. See separate, optional Lattice-Ware software).

Fig 14
"Admin" tag

When the system comes from the factory there are no tags learned into memory. The first tag presented becomes known as the **"Admin"** tag. This tag can be thought of as a type of **"master"** tag, but it is termed the **"Admin"** tag due to the fact that system administration is done using this tag. Administration involves adding and deleting tags, modifying reader settings, etc.

The **"Admin"** tag, shown in this documentation as a tag with a spanner symbol (See Figure 14), has the following characteristics

- The **"Admin"** tag is the "Master Key" to the system and must be looked after carefully. Without it , programming cannot be done on the system.
- The "**Admin**" tag is automatically learned into ID reference number **000**
- The first tag presented to a completely blank L1000 becomes the "**Admin**" tag.
- By default, when presented to the L1000 head the display will indicate "**Ad1**". This is an indication that this tag has been learned into the system, but is not

The "**Admin**" tag, shown in this documentation as a tag with a spanner symbol (See Figure 14), has the following characteristics

- The "**Admin**" tag is the "Master Key" to the system and must be looked after carefully. Without it , programming cannot be done on the system.
- The "**Admin**" tag is automatically learned into ID reference number **000**
- The first tag presented to a completely blank L1000 becomes the **"Admin"** tag.

It is recommended that the "**Admin**" tag is locked away and is used only for programming. If required, however, it can be converted to a normal working tag, but where it retains its "Adminstration" rights. (See configuration menu under programming).

NOTE: In certain cases it will be found that a tag presented to the L1000 displays **"ASC"**. This display indicates that the tag is not "associated" with the L1000, even thought it may be fully functional on the remote slave heads. To indicate that the tag is valid, but will not operate any of the relays on the L1000, it therefore displays "ASC".

Before going into the details of programming it is useful to understand how the programming menu structure is set-up.

Two different menu structures exist, namely

- BASIC, and
- ADVANCED

See the figure below which shows the tree structure for the first level menu for both BASIC and ADVANCED Main Menus.

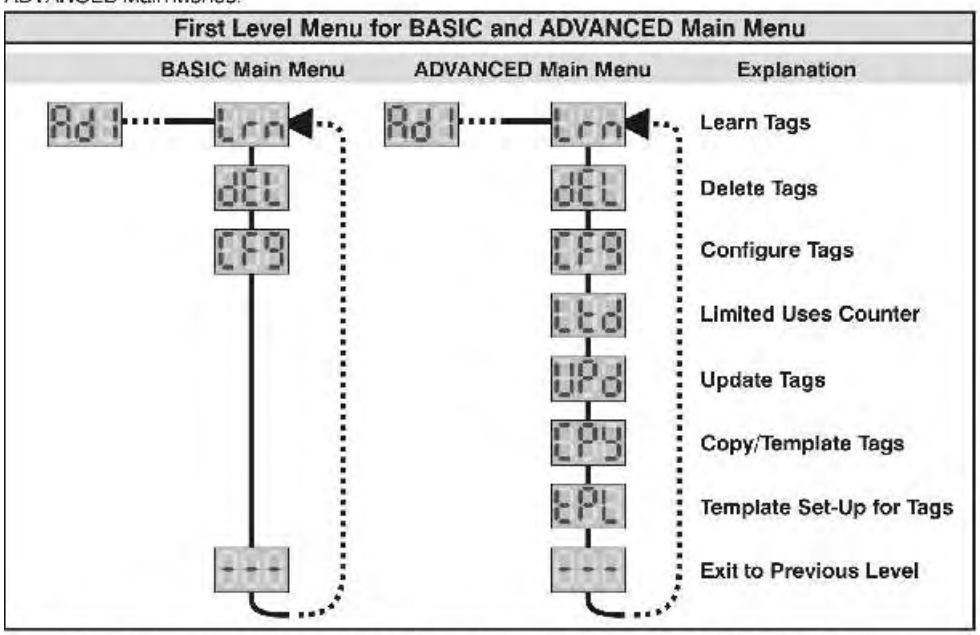


Fig 13 Tree Level Structure showing First Level Menu for both BASIC and ADVANCED Main Menu

Before going into the details of programming it is useful to understand how the programming menu structure is set-up.

Two different menu structures exist, namely

- BASIC, and
- ADVANCED

See the figure below which shows the tree structure for the first level menu for both BASIC and

NOTE: It is only necessary to go into the ADVANCED menu if specialised functionality is required. Most of the standard run-of-the-mill programming can be done from the BASIC menu. (Please see list of abbreviations at the end of this manual for a detailed abbreviation list).

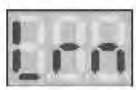
Getting into Programming Mode

As has been indicated, "Ad1" is indicated on the display when the **"Admin"** tag is presented to the L1000. To get into the first level of programming it is necessary to present and **hold** the **"Admin"** tag at the L1000 for 5 seconds. Please note the symbol below indicates **"present and hold"** for the **"Admin"** tag.

Fig 16 Present & Hold "Admin" Tag symbol

NOTE: A full list of the icons and symbols used is shown at the end of this manual.

After 5 seconds the display will change to the first menu item of the main menu, i.e. **"Lrn"** (the abbreviation for "Learn") as shown below:



Lrn (Learn)

If the display of the L1000 is left un-refreshed for longer than 10 seconds the system reverts back to normal run mode (i.e. the display shows the single flashing bar).

Display during Normal Run State

The following sections describe programming using firstly the BASIC Menu Structure and then the ADVANCED Menu. It is assumed that the system is in program mode as described above.

Basic Menu

The Basic Menu comprises the following sub-menu: -

- **Lrn** - Learn (Quik-Learn & Basic Learn)
- **dEL** - Delete
- **CFg** - Configure
- "–-" - Exit to Previous Menu

Each of these menus is described in more detail below.

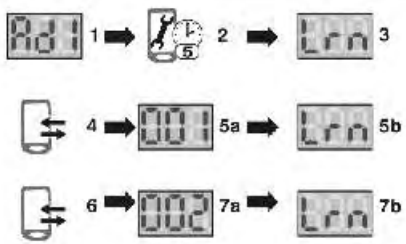
Basic Learn Menu

There are two learn mechanisms that exist under this menu. The first is Quik™ Learn which automatically learns in a tag to **all** heads which are active on the RS485 bus at the time of learning the tag. The second learn method enables tags to be learnt into specific Id's and into specific heads.

1. Quik™ Learn

The QUIK™ learn feature enables new tags to be entered very quickly into the system. The flow diagram below shows the QUIK™ Learn Procedure and is described fully below:

Quik™ Learn



At this stage the system is ready to have new tags learned in

Tag 1 has now been learned into ID Number 001

Tag 2 has now been learned in, etc, etc.

Icon No	Description of QUIK ™ Learn procedure shown above
1	The display "**Ad1**" indicates that the system is in normal RUN mode and that a correct Admin tag is being presented. The system cannot be programmed if any tag other than the Admin tag is presented.
2	Present and **Hold** the Admin tag for 5 seconds.
3	The display changes to **"Lrn"** to indicate the system is in Learn mode.
4	Present and remove the first new tag to be learnt into the system.
5a	On presentation of the first tag the display indicates the ID number into which this tag has been learned. Eg. 001
5b	On removal of the tag the display reverts back to **"Lrn"** indicating that the next tag can be learned.

	Description of QUIK ™ Learn procedure continued from previous page
6	Present and **remove** the second tag to be learned.
7a	On presentation of the second tag the display indicates the ID number into which this tag has been learned. Eg. 002
7b	On removal of the tag the display reverts back to "**Lrn**" indicating that the next tag can be learned.

Table 3. Quik ™ Learn Description

NOTE:

- If tags are numbered make sure they are presented to the L1000 in the correct order.
- When first used, the ID number starts at 001 if the QUIK learn feature is invoked. If tags already exist in memory, then Quick learn will start from the next available ID number.
- The QUIK learn feature will set factory defaults only, and none of the advanced functionality will be learned. Thus tags will have the following basic functionality:
  - Tags are learned, automatically, into any LSH active on the system at the time of programming.
  - Tags will operate the main relay on the L1000 and LSH's.
  - There is no anti-pass back.
  - No limited uses counters are set.

There is an alternative way to enter new tags which provides the ability to set all the attributes for a tag. The menu structure is shown in Figures 21 and 22.

NOTE: The "**ID Selection**" symbol (Figure 17) appears in various levels of the menus described hereafter. This symbol indicates:

- the display will count up or down as the "Admin" tag is presented and **removed.**
- If the green LED is *ON*, then the count *increases* as the tag is presented.
- If the red LED is *ON*, then the count *decreases* as the tag is presented.
- the red and green LED's alternate if a tag is not presented.
- if the tag is presented and **held** in place, then the count rate increases radically.

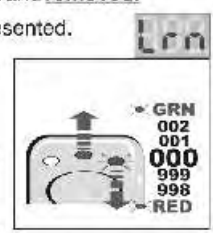


Fig 17
"ID Selection" symbol

This same process applied to setting relay times (See Configure Menu on page 38)

1.2. Basic Learn:

The Basic learn process is described below with reference to the "Basic" Learn Menu Structure diagram (See Figure 18).

1.2.1. Present and **hold** the "**Admin**" Tag for 5 seconds to move from **LRN** of the main menu to "000" of Level 1.

1.2.2. Present and **remove** the "**Admin**" Tag in association with the Red and Green LED's on the L1000 to scroll the ID Number up or down to the required ID Number for the new tag which has to be learned in. (In this example 006)

1.2.3. Present and **remove** a new tag. The display will change to "**Con**" (Controller)

1.2.4. Present and **remove** the "**Admin**" tag to scroll vertically through the available heads, "**Con**" and "**H.01**" to "**H.31**". Only heads currently active on the bus will be displayed.

1.2.5. Once the required head in 1.2.4. is selected, present and **remove** the **NEW** tag while monitoring the red and green LED on the L1000. Each time the tag is removed the LEDs will toggle. If the Red LED is ON it means that the tag will not operated on this head and if the Green LED is ON the tag will operate on this head.

1.2.6. Confirm the setting decided upon in 1.2.5. above by repeatedly presenting and **removing** the "**Admin**" tag to scroll vertically down to **-A-**

1.2.7 Present and hold the new tag for 5 seconds to save the new tag. The display will momentarily flash"**dNE**" to indicate that the new tag has been saved. To learn additional tags, or wait 10 seconds for the systems to time out.

NOTE: If the "**Admin**" tag is presented and held at **-A-** the system will exit to **Lrn**.

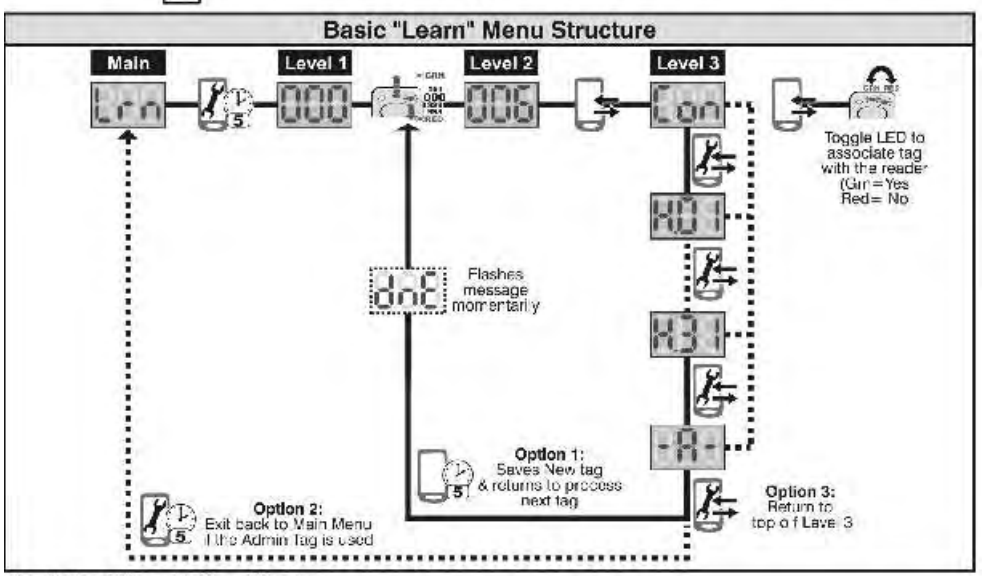


Fig 18 Basic "Learn" Menu Structure

2. Basic Delete Menu

The Delete functionality in the basic menu structure is a sub-set of that found in the advanced menu. It allows only for deletion of a tag by ID or bulk erase of all tags from all readers. The process is described below using the "Basic Delete Menu Structure" shown in Figure 19.

2.1. Present and **hold** the "**Admin**" tag for 5 seconds to get from **DEL** of the main menu to **ID** of level 1.

2.2. Present and **remove** to scroll vertically through the options in level 1. Options are:

- **ID** - deletes any tags stored in a particular ID location across heads in the system.
- **ErA** - deletes all tags in all heads. i.e. a full bulk erase.
- "**---**" - exit back to "**dEL**" main menu

2.3. Present and **hold** the "**Admin**" tag for 5 seconds when the required selection in 2.2 above is made. Each option is described below: -

2.3.1. **Delete by ID.**

Present and **hold** the "**Admin**" tag for 5 seconds to move from **"ID"** in level **1** to "000" in level 2.

2.3.1.1. Present and **remove** the "**Admin**" tag in association with the red and green LED s to scroll the ID up or down to the required ID which needs to be deleted. (Example shown here indicates ID=014)

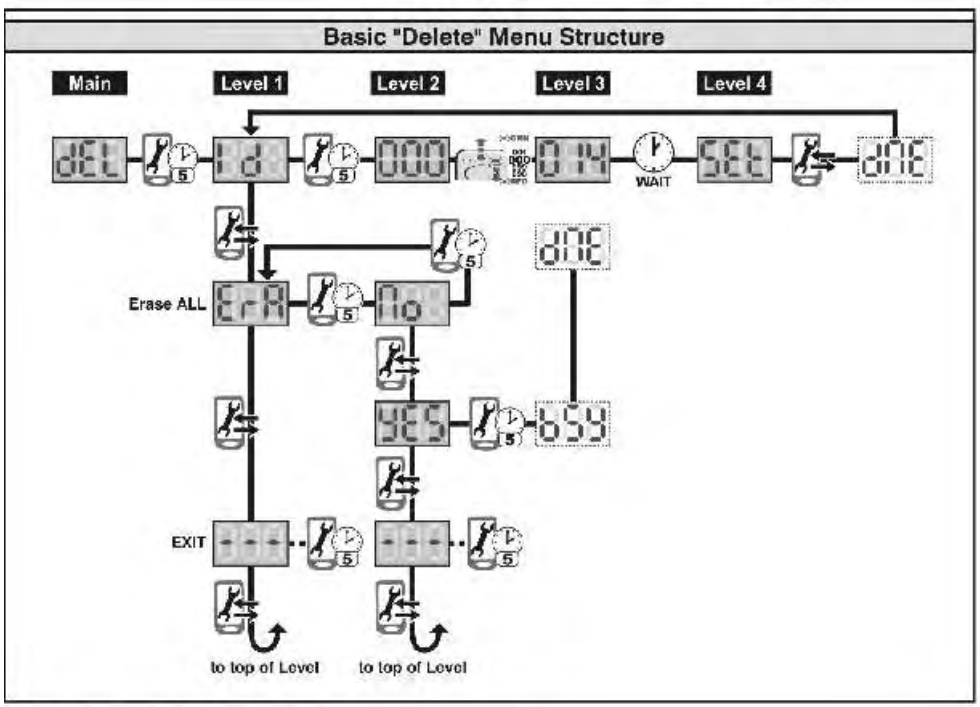


Fig 19 Basic "Delete" Menu Structure

2.3.1.2. Present and **remove** the **"Admin"** tag. The Display will **FLASH** **"dNE"** momentarily (abbreviation for Done) to indicate that any tag (or tags) stored in the selected ID have been deleted. The system goes back to level 1 to allow the process to be repeated.

2.3.2. **ErA - (Erase All)** Present and **hold** the **"Admin"** tag for 5 seconds to move from **"ErA"** to "No"

2.3.2.1. Present and **remove** the **"Admin"** tag to scroll vertically through the options:

No - No, do NOT erase all tags.

Yes - Yes, erase all tags.

"---" - Exit to previous menu.

2.3.2.2. Present and **hold** the **"Admin"** tag when the option in 2.3.2.1. has been selected.

- If **No** was selected the system will not erase tags and returns to the **ErA** display.
- If **YES** was selected the display will momentarily flash up **"bSY"** (an abbreviation for Busy) and then **"dNE"** (an abbreviation for Done) to indicate that all tags have been erased.
- If **"---"** was selected the system will not erase tags and returns to the **dEL** display.

NOTE: During a bulk erase (**ErA**) even the master or "**Admin**" tag is erased from the system. This means that a new **"Admin"** tag will have to be created before the system can be used. (See First Time Operation.

3. Basic Configure

The Configure Menu enables the "Advanced Menu" structure to be invoked. The advanced menu structure will remain in effect for approximately twenty minutes and then revert back to BASIC.

The Configure menus are described fully below referring to the BASIC Configure menu (Figure 20)

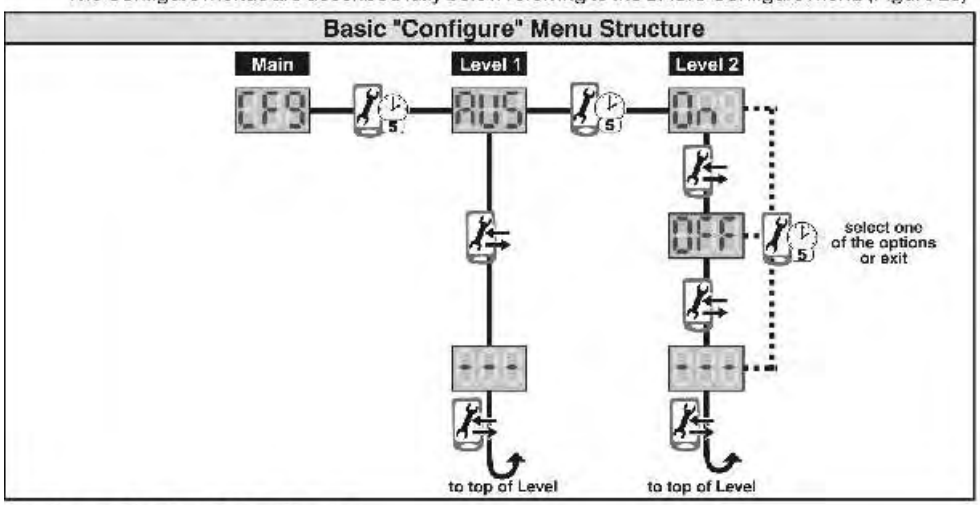


Fig 20 Basic "Configure" Menu Structure

3.1. **CFg** - (Configure)

Present and **hold** the **"Admin"** tag to get from **CFg** of the main menu to **AUS** in level 1.

3.2. Present and **remove** the "Admin" tag to scroll vertically through level 1 to select the options:

- **AUS** - Advanced User Structure
- "---" - Exit to Previous Menu

3.2.1. Present and **remove** the **"Admin"** tag to move from **AUS** of level 1 to **ON** in level 2.

3.2.2. Present and **remove** the **"Admin"** tag to scroll vertically through the following options in level 2.

- **On** - Turns ON the Advanced User Structure
- **OFF** - Turns OFF the Advanced User Structure
- **"---"** - Exit to previous menu

3.2.3. Present and **hold** the **"Admin"** tag for 5 seconds when the required selection in 3.2.2 above has been made.

- If **ON** was selected the system displays **CFg** and it will be noticed that the full ADVANCED menu structure will now be operational.
- If **OFF** was selected the system leaves the BASIC configure menu in place.
- If **"---"** was selected the systems exits back to the **AUS** Menu.

Advanced Menu

The Advanced Menu Structure comprises the following first level sub-menus: -

LrN - Learn (Quik-Learn & Basic Learn)

dEL - Delete

CFg - Configure

Ltd - Limited Uses Counter

Upd - Update Tags

CPy - Copy Template or Tags

tPL - Template Setup

"**---**" - Exit

Each of these menus is described in more detail below.

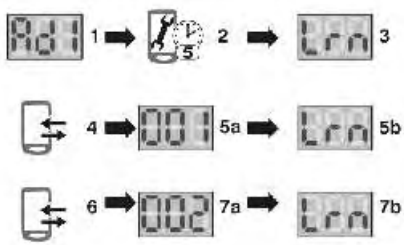
1. Learn Menu

There are two learn mechanisms that exist under this menu. The first is Quik™ Learn, which automatically learns any tag presented to the system into **all active** heads on the RS485 network using the next available ID number. i.e. Only one tag is linked to a unique ID number. A maximum of 999 tags can be added in this way. The second learn method enables one or more tags to be learned into specific ID's or into specific heads and if required, for each tag to have its own unique characteristics such as anti-pass back, relay times, limited uses counters, etc.

1.1. Quik™ Learn (identity number)

The QUICK™ learn feature enables new tags to be entered very quickly into the system. The flow diagram below shows the QUIK™ Learn Procedure and is described fully below:

Quik™ Learn



At this stage the system is ready to have new tags learned in

Tag 1 has now been learned into ID Number 001

Tag 2 has now been learned in, etc, etc.

Icon No	Description of QUIK ™ Learn procedure shown above
1	The display "**Ad1**" indicates that the system is in normal RUN mode and that a correct "**Admin**" tag is being presented. The system cannot be programmed if any tag other than the"**Admin**" tag is presented.
2	Present and **Hold** the"**Admin**" tag for 5 seconds.

Icon No	Description of QUIK ™ Learn procedure continued from previous page
3	The display changes to "**Lrn**" to indicate the system is in Learn mode.
4	Present and **remove** the first new tag to be learnt into the system.
5a	On presentation of the first tag the display indicates the ID number into which this tag has been learned. Eg. 001
5b	On removal of the tag the display reverts back to "**Lrn**" indicating that the next tag can be learned.
6	Present and **remove** the second tag to be learned.
7a	On presentation of the second tag the display indicates the ID number into which this tag has been learned. Eg. 002
7b	On removal of the tag the display reverts back to "**Lrn**" indicating that the next tag can be learned.

Table 4. Quik ™ Learn Description

NOTE:

- If tags are numbered make sure they are presented to the L1000 in the correct order.
- When first used, the ID number starts at 001 if the QUIK learn feature is invoked. If tags already exist in memory, then Quick learn will start from the next available ID number.
- The QUIK learn feature will set factory defaults only, and none of the advanced functionality will be learned. Thus tags will have the following basic functionality:
    - Tags are learned, automatically, into any LSH active on the system at the time of programming.
    - Tags will operate the main relay on the L1000 and LSH's.
    - There is no anti-pass back.
    - No limited uses counters are set.

1.2. Normal Learn:

There is an alternative way to enter new tags which provides the ability to set all the attributes for a tag. The menu structure is shown in Figures 21 and 22.

Using the 'Normal Learn Menu Structure' as a guide, the following steps are followed to Normal Learn.

1.2.1. The **"Admin"** tag is presented and **held** (for 5 seconds) to get from **"Lrn"** of the Main menu to where the display indicates "000". i.e from the Main menu to Level 1.

1.2.2. The **"Admin"** tag is again presented and removed to get the display to increase, or decrease, (as described above) until the required ID is reached. (Level 1 to Level 2)

1.2.3. A **"new"** tag is now presented which moves the display from level 2 to level 3. The change from level 2 to level 3 is shown by the fact that the ID shown as numeral "026" in this example, changes to **"Con"** (abbreviation for Controller). This indicates that the system will now allow any of the configuration options of levels 4, and onwards, to be set up on the L1000 reader. Two routes can now be followed:

1.2.3.1. If the **"Admin"** tag is presented and **removed**, the display will scroll vertically through the list showing any connected readers, indicated as **"Con"** (for the L1000 Controller) and **"H.01"** to **"H.031"** (for any LSH's physically attached to the RS485 network). This enables the settings of levels 4 and onwards to be set individually on any attached reader. After the last attached head is shown the display indicates **-A-**. This is the display symbol to indicate SAVE or EXIT. Once "Con" and, optionally, heads **H.01** to **H.31** are set, it is critical that **-A-** is selected (present and hold the **"NEW"** tag) to save all the settings that may have been made to levels 4 onwards to all the readers.

NOTE: If the **"Admin"** tag is presented at **-A-** the system will exit back to the main menu without saving any changes.

1.2.3.2.. Once a reader is selected (as per 1.2.3.1. above), the display is moved from level 3 to level 4 by presenting and holding the **"Admin"** tag. e.g. if **"Con"** is displayed and the **"Admin"** tag is presented and held (for at least 5 seconds) the display will change from **"Con"** to **"ASC"**.

1.2.4. Similar to level 3 it is possible to scroll vertically through the **"ASC"** (associations), **"APb"** (anti-pass back), **"Ltd"** (Limited uses counters), **"OLA"** (Off-Line Access), or **"- - -"** (Exit back to previous level) by presenting and **removing** the "Admin" tag. Once a specific menu item in level 4 is decided upon, the display is moved, horizontally, from level 4 to level 5 by presenting and **holding** the **"Admin"** tag for 5 seconds. E.g. if "ASC" is displayed and the **"Admin"** tag is presented and held for 5 seconds then the display changes from **"ASC"** to **"CH.1"**

NOTE: The OLA Menu will only appear for LSH's. It does not apply to the L1000.

1.2.5. The various options presented in level 5 depend on what was selected in level 4. For example:

1.2.5.1. If **"ASC"** was selected then channel 1 or 2 (only channel 1 can be selected for LSH's) is first chosen by scrolling vertically through **Ch.1**, **Ch.2**, or **"--"** if exit to a previous level is required), by presenting and removing the **"Admin"**

Using the 'Normal Learn Menu Structure' as a guide, the following steps are followed to Normal Learn.

1.2.1. The **"Admin"** tag is presented and **held** (for 5 seconds) to get from **"Lrn"** of the Main menu to where the display indicates "000". i.e from the Main menu to Level 1.

1.2.2. The **"Admin"** tag is again presented and removed to get the display to increase, or decrease, (as described above) until the required ID is reached. (Level 1 to Level 2)

1.2.3. A **"new"** tag is now presented which moves the display from level 2 to level 3. The change from level 2 to level 3 is shown by the fact that the ID shown as numeral "026" in this example. changes to **"Con"** (abbreviation for Controller). This indicates that the system will now allow any of the configuration options of levels 4, and onwards, to be set up on the L1000 reader. Two routes can now be followed:

1.2.3.1. If the **"Admin"** tag is presented and **removed**, the display will scroll vertically through the list showing any connected readers, indicated as **"Con"** (for the L1000 Controller) and **"H.01"** to **"H.031"** (for any LSH's physically attached to the RS485 network). This enables the settings of levels 4 and onwards to be set individually on any attached reader. After the last attached head is shown the display indicates **-A-**. This is the display symbol to indicate SAVE or EXIT. Once "Con" and, optionally, heads **H.01** to **H.31** are set, it is critical that **-A-** is selected (present and hold the **"NEW"** tag) to save all the settings that may have been made to levels 4 onwards to all the readers.
NOTE: If the **"Admin"** tag is presented at **-A-** the system will exit back to the main menu without saving any changes.

1.2.3.2.. Once a reader is selected (as per 1.2.3.1. above), the display is moved from level 3 to level 4 by presenting and holding the **"Admin"** tag. e.g. if **"Con"** is displayed and the **"Admin"** tag is presented and held (for at least 5 seconds) the display will change from "**Con**" to "**ASC**".

1.2.4. Similar to level 3 it is possible to scroll vertically through the **"ASC"** (associations), **"APb"** (anti-pass back), "**Ltd**" (Limited uses counters), **"OLA"** (Off-Line Access), or **"- - -"** (Exit back to previous level) by presenting and **removing** the "Admin" tag. Once a specific menu item in level 4 is decided upon, the

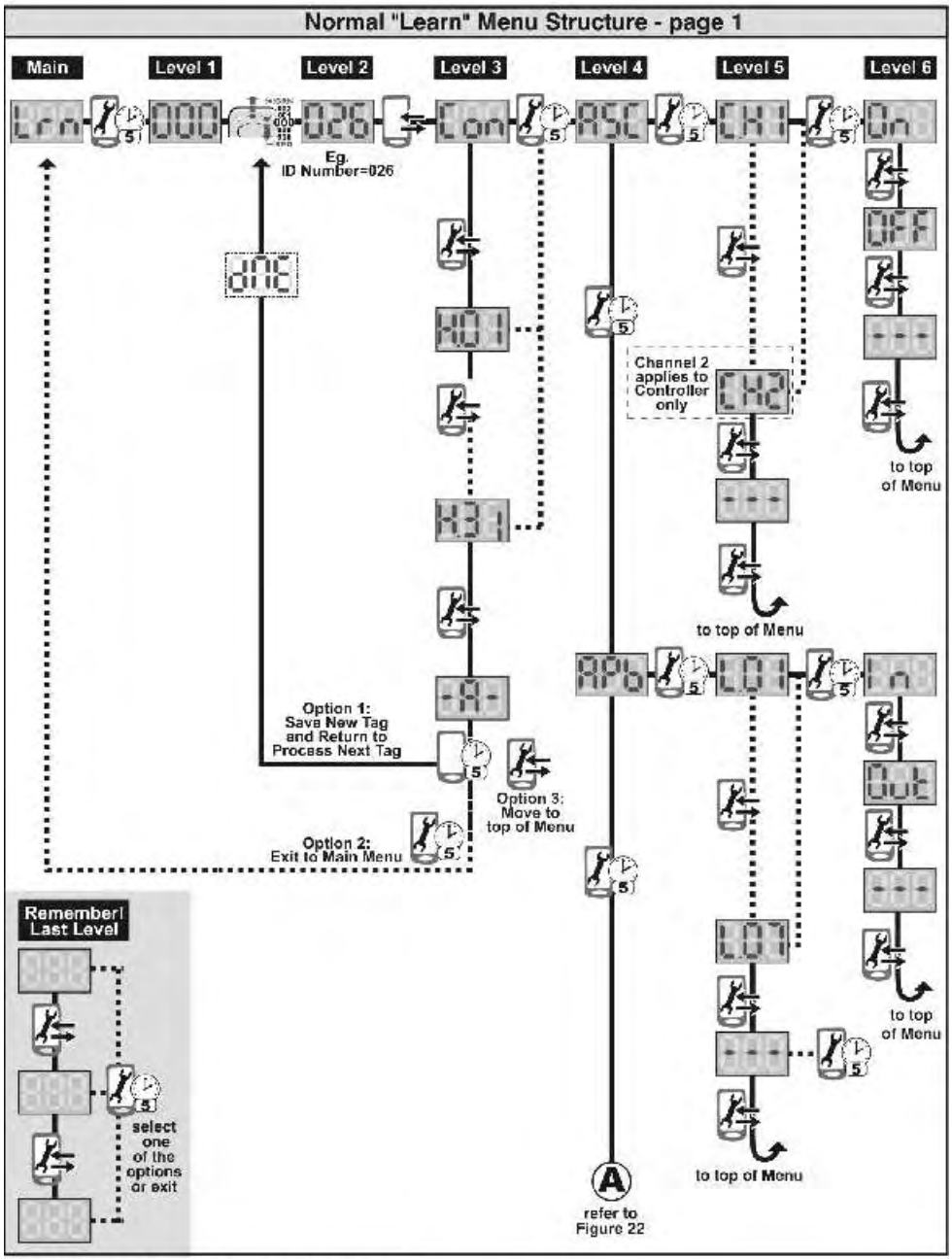


Fig 21 Page 1 of Normal "Learn" Menu Structure

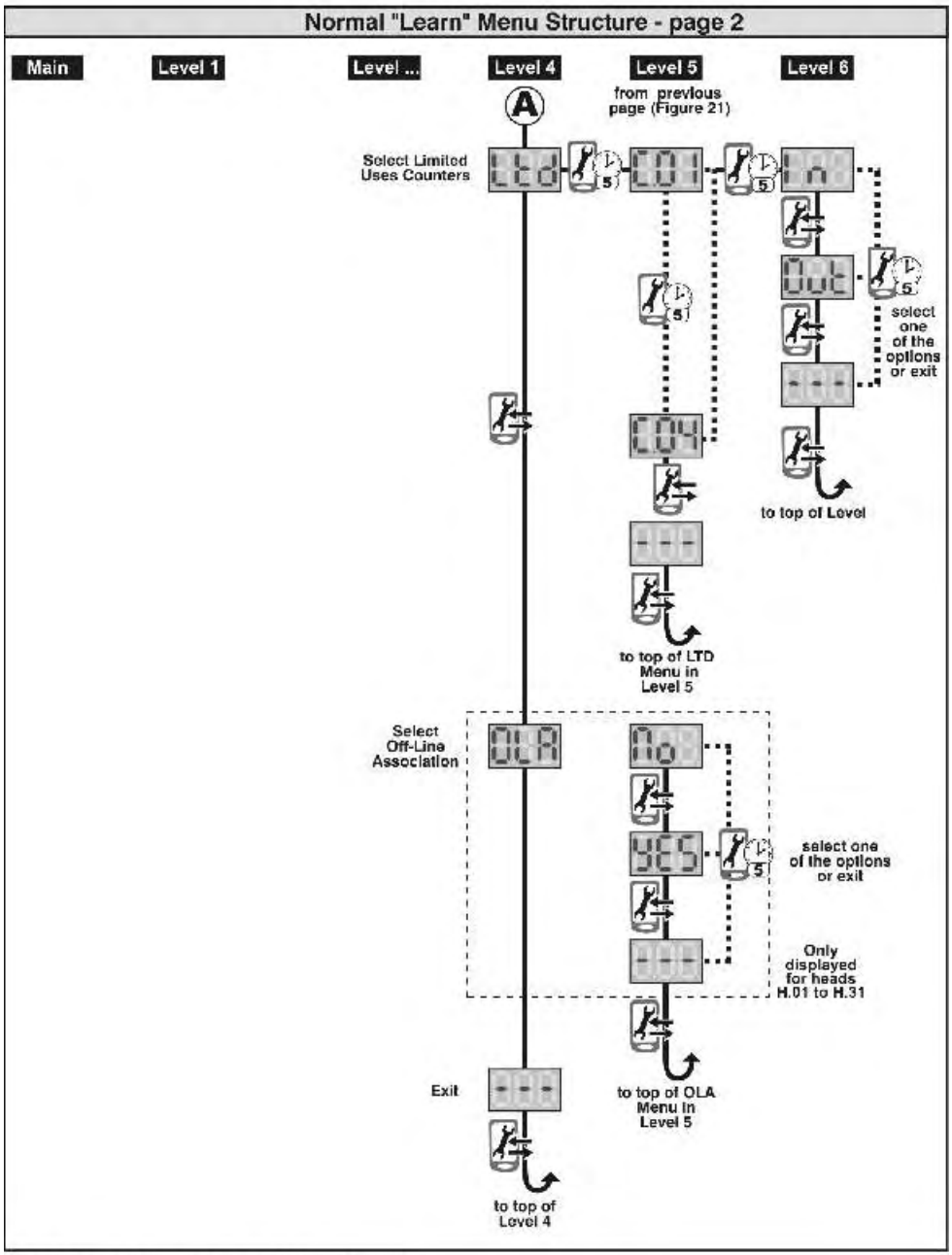


Fig 22 Page2 of Normal "Learn" Menu Structure

2. Delete Menu

The second main menu item is **"dEL"** which allows for deletion of tags.

Deletion of tags can be done by ID, by actual physical tag, by tags specific to certain readers (heads), or by doing a bulk erase of all tags in the system.

Using the Advanced Delete Menu Structure (shown in Figure 23 and 24) as a guide the following steps are followed:

2.1. The **"Admin"** tag is presented and **held** (for 5 seconds) to get from **"dEL"** of the "Main" menu to where the display indicates **"ID"**. i.e from the Main menu to Level 1.

2.2. Decide on how tags are to be deleted as follows:

2.2.1. *Present and* ***remove*** *the* **"Admin"** tag to scroll the display vertically, allowing deletion of tags by either

- **Id** - (Identity number)
- **tAg** - (specific physical tag)
- **Hd** - (tags associated with a specific head)
- **ErA** - (erase all, or bulk erase)
- **"---"** - (exit back to previous level

2.2.2. Once a decision is made of how tags are to be deleted in 2.2.1 above then the **"Admin"** tag is presented and **held** for 5 seconds to move from level 1 to level 2.

2.3. The specifics of each different deletion mechanism (selected in 2.1.1 above) is described more fully below:

2.3.1. **Delete by "Id".** If delete by ID was selected then the display will be indicating ID number **"000".**

2.3.1.1. Select the required ID by presenting and **removing** the **"Admin"** tag to increase (or decrease) the ID (see details of ID selection symbol described previously)

2.3.1.2. When the correct ID is selected, WAIT.

2.3.1.3. When the display changes to **"SEt"**, present and **remove** the **"Admin"** tag. If successful the display will flash **"dnE"** and return to **"Id"** to allow selection of another ID to be deleted.

2.3.2. **Delete by "tAg".** If delete by **"tAG"** was selected then the display will look as follows.

2.3.2.1. Present the tag to be deleted.

2.3.2.2. The display momentarily flashes up **"dnE"** (done) indicating the tag has been successfully deleted. If a tag already deleted, (i.e. not stored in memory), is presented the display will indicate **"..."** (not in memory)

2.3.2.3. The display reverts to after successful tag deletion. If the **"Admin"** tag is presented the system exits the tag deletion menu and the display reverts to **"tAg"**.

2.3.3. **Delete by "Hd".** If delete by **"Hd"** was selected then the display will be indicating **"Con"** (Controller).

2.3.3.1. Select the head (i.e. Reader) from which tags need to be removed by scrolling vertically through the attached heads, **"Con"** and any RLSH's shown as **H.01** to **H.31** (only those linked at the time will display).

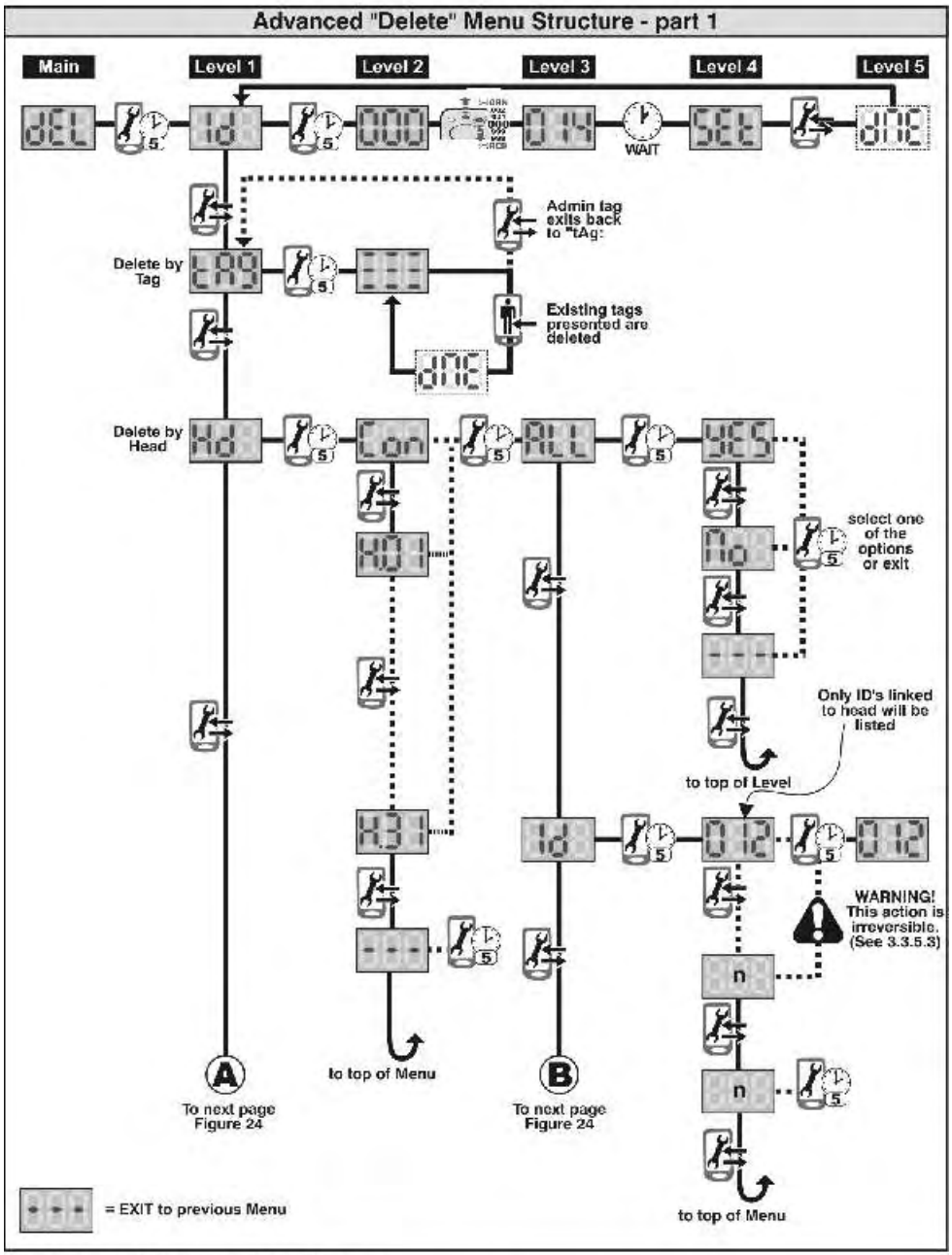
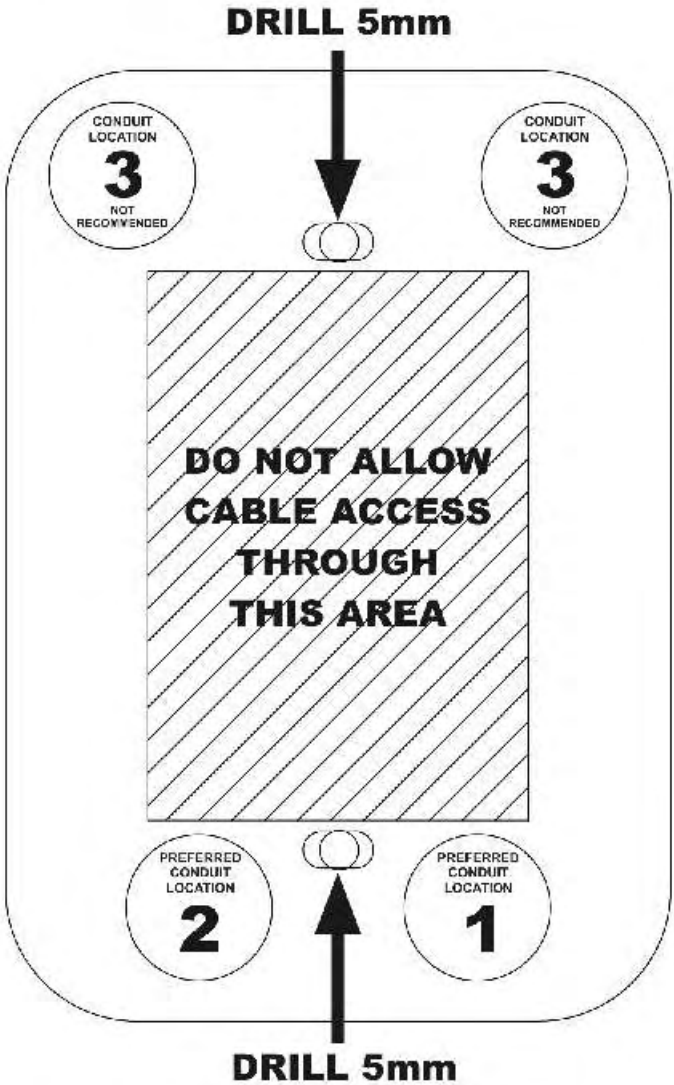


Fig 23 Part 1 of Advanced "Delete" Structure


DRILL 5mm
CONDUIT LOCATION 3 NOT RECOMMENDED
CONDUIT LOCATION 3 NOT RECOMMENDED
DO NOT ALLOW CABLE ACCESS THROUGH THIS AREA
PREFERRED CONDUIT LOCATION 2
PREFERRED CONDUIT LOCATION 1
DRILL 5mm

SURFACE MOUNT INSTALLATION

This mounting template is to be used when performing a surface mount installation.

- When planning where to locate the unit, it is important to consider the cable entry position. Do not allow cables to enter the unit through the centre area as this will interfere with assembly of the unit after installation.
- Place the template in such a manner that conduit, where provided, will be behind one of the four preferred conduit locations shown alongside. If conduit is not provided, surface mounted cabling should be planned to enter the unit through one of the 4 preferred locations indicated.
- The conduit locations are indicated in order of preference. Location 1 being the most preferable cable entry location and location 3 being the least preferable cable entry location.

MOUNTING TEMPLATE

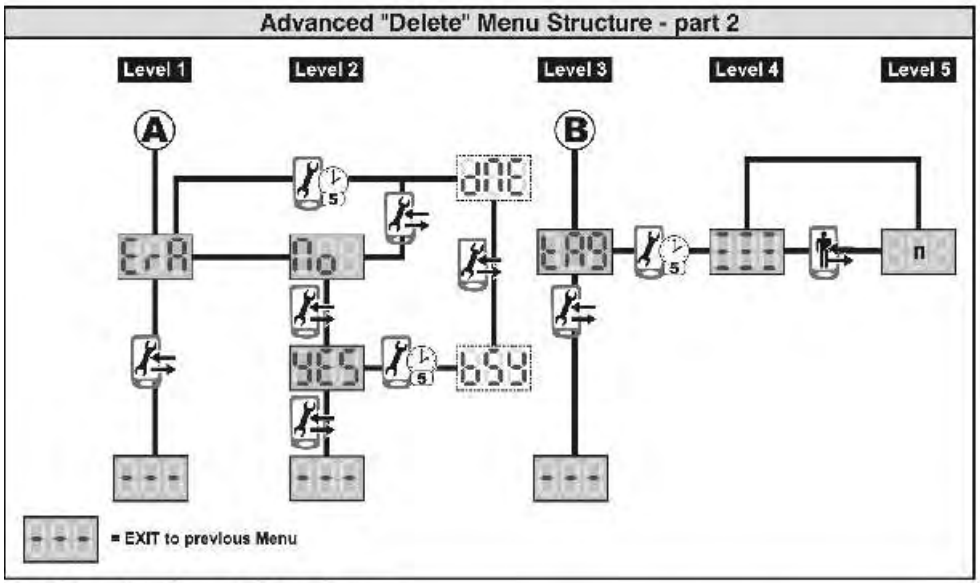


Fig 24 Part 2 of Advanced "Delete" Structure

2.3.3.2. Once the head is selected, present and **hold** the **"Admin"** tag to move from level 2 to level 3 . Display will indicate **"ALL"** (Delete all tags in this head). At this stage there are a number of different ways in which the tags can be deleted. Viz:

- Delete all tags in the head selected by selecting **"ALL"**
- Delete tags in this head by ID number. The system will automatically prompt the user with only those Id's actually stored in this head.
- Delete tags using specific available tags.

2.3.3.3. Selection of **"ALL"**, **"Id"**, **"tAg"**, or **"---"** (exit to previous menu) is done by presenting and **removing** the **"Admin"** tag.

2.3.3.4. If **"ALL"** tags must be deleted move to level 4 by presenting and **holding** the **"Admin"** tag.

2.3.3.4.1. Rotate vertically through the selections **"yES"** (delete all tags), **"No"** (do NOT delete all tags), or **"---"** (exit to previous menu) by presenting and removing the **"Admin"** tag.

2.3.3.4.2. Confirmation of the selection of **"yES"** or **"No"** is made by presenting and **holding** the **"Admin"** tag for 5 seconds.

2.3.3.5. If delete by **"Id"** is required move to level 4 by presenting and **holding** the **"Admin"** tag.

2.3.3.5.1. The display will indicate the lowest ID number stored in this head. The green LED in the centre of the reader will also be illuminated.

2.3.3.5.2 Scrolling vertically through the list of all Id's stored in the head can be done by presenting and removing the **"Admin"** tag.

2.3.3.5.3. ***Warning:*** *Once the step described below is performed the delete process cannot be reversed. The tag would have to be re-learned (or associated with this head) for it to be seen as a valid tag.*

2.3.3.2. Once the head is selected, present and **hold** the **"Admin"** tag to move from level 2 to level 3 . Display will indicate **"ALL"** (Delete all tags in this head). At this stage there are a number of different ways in which the tags can be deleted. Viz:

- Delete all tags in the head selected by selecting "**ALL**"
- Delete tags in this head by ID number. The system will automatically prompt the user with only those Id's actually stored in this head.
- Delete tags using specific available tags.

2.3.3.3. Selection of **"ALL"**, **"Id"**, **"tAg"**, or **"---"** (exit to previous menu) is done by presenting and **removing** the **"Admin"** tag.

2.3.3.4. If **"ALL"** tags must be deleted move to level 4 by presenting and **holding** the **"Admin"** tag.

2.3.3.4.1. Rotate vertically through the selections **"yES"** (delete all tags), **"No"** (do NOT delete all tags), or **"---"** (exit to previous menu) by presenting and removing the **"Admin"** tag.

3. Configure Menu

The third main menu item is the **"CFg"** or configure menu. This menu provides the user the ability to configure the following parameters on the various readers:

AUS - Advanced User Structure.

The configure menus are described fully below referring to the "Configure" Menu (Figures 25 to 28)

Description of the Configure Menu

3.1. The **"Admin"** tag is presented and held (for 5 seconds) to get from **"CFg"** of the Main menu to where the display indicates **"HdS"** (Head Settings) which is the first sub-menu item of the Configure Menu.

3.2. The various sub-menu items can be selected by scrolling vertically through the list by presenting and removing the **"Admin"** tag. The following menus are selectable.

- **HdS** - Head Settings which allows for setting of relay energise timers, alarm timers, buzzer volume, etc.
- **dSP** - Display Brightness which can be adjusted in 10% increments. The default is 50%
- **CUS** - Complex User Structure. This selects whether the advanced user menu is turned on or off.
- **AtC** - Advanced Tag Control. Allows for creation of additional "Admin" tags.
- **bnr** - Backup and restore. This allows the controller memory to be backed up to, or restored frm, the optional backup memory module.
- **PCS** - P.C. System menu. This allows the user to specify whether or not the system is connected to a P.C.
- **SUP** - This is a diagnostic tool which displays the current supply voltage to the controller.
- **"---"** - Exit to previous menu

3.3. Once a decision is made of which menu item in level 1 is required, present and **hold** the **"Admin"** tag for 5 seconds to move to level 2.

3.4. The specifics of each sub-menu item described in 2.1 to 2.5 is described more fully below.

3.4.1. **Hd - (Head settings)**: If HdS was selected the display will indicate "Con". This sub-menu allows the parameters of the main controller (L1000) or any of the attached LSH's (i.e. H.01 to H31) to reset. Select which reader (head) needs to be set by presenting and

3.1. The **"Admin"** tag is presented and held (for 5 seconds) to get from **"CFg"** of the Main menu to where the display indicates **"HdS"** (Head Settings) which is the first sub-menu item of the Configure Menu.

3.2. The various sub-menu items can be selected by scrolling vertically through the list by presenting and removing the **"Admin"** tag. The following menus are selectable.

- **HdS** - Head Settings which allows for setting of relay energise timers, alarm timers, buzzer volume, etc.
- **dSP** - Display Brightness which can be adjusted in 10% increments. The default is 50%
- **CUS** - Complex User Structure. This selects whether the advanced user menu is turned on or off.
- **AtC** - Advanced Tag Control. Allows for creation of additional "Admin" tags.
- **bnr** - Backup and restore. This allows the controller memory to be backed up to, or restored frm, the optional backup memory module.
- **PCS** - P.C. System menu. This allows the user to specify whether or not the system is connected to a P.C.
- **SUP** - This is a diagnostic tool which displays the current supply voltage to the controller.
- **"---"** - Exit to previous menu

3.3. Once a decision is made of which menu item in level 1 is required, present and **hold** the **"Admin"** tag for 5 seconds to move to level 2.

3.4. The specifics of each sub-menu item described in 2.1 to 2.5 is described more fully below.

3.4.1. **Hd - (Head settings)**: If HdS was selected the display will indicate "Con". This sub-menu allows the parameters of the main controller (L1000) or any of the attached LSH's (i.e. H.01 to H31) to reset. Select which reader (head) needs to be set by presenting and **removing** the **"Admin"** tag to scroll vertically through the heads. When the required head is displayed, present and **hold** the **"Admin"** tag for 5 second. The display will then indicate **"rt1"** (Relay time 1) which is the first menu item of the level 3 sub-menu. Scrolling vertically through level 3 by presenting and **removing** the **"Admin"** tag will allow the following to be selected.

If any of the timers below need to be adjusted, present and **remove** the **"Admin"** tag in conjunction with the green and red LED to scroll the count up and down to the required value. Wait a few seconds and the display will momentarily flash **"SEt"** to indicate that the new value has been selected, **BUT NOT YET SAVED!** To **SAVE** the new value, repeatedly present and remove the **"Admin"** tag until **"-A-"** is displayed. At this point, preset and **hold** the **"Admin"** tag to save the new value. The L1000 will now return the level 2 sub-menu.

NOTE: It is possible to change any number of timers **BEFORE** saving them. However, it is important to note that until the **"-A-"** step is carried out, the new values are not written to the memory.

3.4.1.1 **ryt - Relay Time 1**. i.e. The pulse time for relay 1 can be set between 1 and 254 seconds. (Default time = 3 seconds). If set to 000 seconds the relay will never energise. (If set to 255 the relay will latch). If the time needs to be adjusted, present and hold the "Admin" tag and the display will indicate the existing time setting stored in memory.

3.1. The **"Admin"** tag is presented and held (for 5 seconds) to get from **"CFg"** of the Main menu to where the display indicates **"HdS"** (Head Settings) which is the first sub-menu item of the Configure Menu.

3.2. The various sub-menu items can be selected by scrolling vertically through the list by presenting and removing the **"Admin"** tag. The following menus are selectable.

- **HdS** - Head Settings which allows for setting of relay energise timers, alarm timers, buzzer volume, etc.
- **dSP** - Display Brightness which can be adjusted in 10% increments. The default is 50%
- **CUS** - Complex User Structure. This selects whether the advanced user menu is turned on or off.
- **AtC** - Advanced Tag Control. Allows for creation of additional "Admin" tags.
- **bnr** - Backup and restore. This allows the controller memory to be backed up to, or restored frm, the optional backup memory module.
- **PCS** - P.C. System menu. This allows the user to specify whether or not the system is connected to a P.C.
- **SUP** - This is a diagnostic tool which displays the current supply voltage to the controller.
- **"---"** - Exit to previous menu

3.3. Once a decision is made of which menu item in level 1 is required, present and **hold** the **"Admin"** tag for 5 seconds to move to level 2.

3.4. The specifics of each sub-menu item described in 2.1 to 2.5 is described more fully below.

3.4.1. **Hd - (Head settings)**: If HdS was selected the display will indicate "Con". This sub-menu allows the parameters of the main controller (L1000) or any of the attached LSH's (i.e. H.01 to H31) to reset. Select which reader (head) needs to be set by presenting and **removing** the **"Admin"** tag to scroll vertically through the heads. When the required head is displayed, present and **hold** the **"Admin"** tag for 5 second. The display will then indicate **"rt1"** (Relay time 1) which is the first menu item of the level 3 sub-menu. Scrolling vertically through level 3 by presenting and **removing** the **"Admin"** tag will allow the following to be selected.

If any of the timers below need to be adjusted, present and **remove** the **"Admin"** tag in conjunction with the green and red LED to scroll the count up and down to the required value. Wait a few seconds and the display will momentarily flash **"SEt"** to indicate that the new value has been selected, **BUT NOT YET SAVED!** To **SAVE** the new value, repeatedly present and remove the **"Admin"** tag until **"-A-"** is displayed. At this point, preset and **hold** the **"Admin"** tag to save the new value. The L1000 will now return the level 2 sub-menu.

NOTE: It is possible to change any number of timers **BEFORE** saving them. However, it is important to note that until the **"-A-"** step is carried out, the new values are not written to the memory.

3.4.1.1 **ryt** - **Relay Time 1**. i.e. The pulse time for relay 1 can be set between 1 and 254 seconds. (Default time = 3 seconds). If set to 000 seconds the relay will never energise. (If set to 255 the relay will latch). If the time needs to be adjusted, present and hold the "Admin" tag and the display will indicate the existing time setting stored in memory.

3.4.1.2. **rt2** - **Relay Time 2**. i.e. The pulse time for relay 2 can be set between 1 and 254 seconds. (Default time = 3 seconds). If set to 000 seconds the relay will

3.4.1.13.13 **EPA - (External panic alarm)** This sets whether the external alarm output activates during a panic alarm

3.4.1.14 **SSC - (Smartswitch II Configuration)**

3.4.1.14.1 SSr - (Smartswitch II on relay output)
3.4.1.14.2 SSA - (Smartswitch II on alarm output)

3.4.1.15 **rdC - (Relay to door configuration)**

3.4.1.15.1 rL1 - (Relay 1 configuration)
3.4.1.15.2 rL2 - (Relay 2 configuration)

3.4.2. **dSP - (Display Brightness)**. The brightness can be varied in 10% increments.

3.4.2.1. Present and **hold** the **"Admin"** tag for 5 seconds to select brightness options. The display will indicate the current display setting. By default this is 50% (i.e. 050)

3.4.2.2. Present and **remove** the **"Admin"** tag to scroll through the settings which vary between 1% and 100% in 10% steps.

3.4.2.3. Present and **hold** the **"Admin"** tag for 5 seconds to activate the setting selected in 3.4.2.2. above.

3.4.3. **AUS - (Advanced User Structure)**. By default the system always operates with the Basic User menu structure. If the Advanced user menu is turned on from the Basic menu then the Advanced menu will become active for a period of 20 minutes, thereafter reverting back to the Basic menu. If the Advanced user menu is turned ON from the Advanced Menu it remains permanently active until turned OFF.

3.4.3.1. Present and **hold** the **"Admin"** tag for 5 seconds to select the **AUS** options.

The display will indicate ON.

3.4.3.2. Present and **remove** the **"Admin"** tag to scroll vertically through the options:-

- **On** - Turns the Advanced Menu ON
- **OFF** - Turns the Advanced Menu OFF
- **" --- "** - Exits to previous menu

3.4.3.3. Present and **hold** the **"Admin"** tag for 5 seconds to activate the setting selected in 3.4.3.2. above.

3.4.4. **AtC - (Advanced Tag Control)**. This menu enables additional **"Admin"** tags to be created.

Warning: Additional **"Admin"** tags is a security risk unless these tags are carefully monitored and controlled.

3.4.4.1. Present and **hold** the **"Admin"** tag for 5 seconds to select the **AtC** option. The symbol will be displayed.

3.4.4.2. Present the tag whose admin rights are to be changed. The current rights will be displayed (either ON or OFF).

3.4.4.3. Repeatedly present and remove a master tag, selecting either "Admin" rights On, OFF or ... (escape).

3.4.4.4. When required setting is displayed, present and hold a master tag until is displayed. The tag's admin rights have now been updated.

3.4.2. **dSP - (Display Brightness).** The brightness can be varied in 10% increments.

3.4.2.1. Present and **hold** the **"Admin"** tag for 5 seconds to select brightness options. The display will indicate the current display setting. By default this is 50% (i.e. 050)

3.4.2.2. Present and **remove** the **"Admin"** tag to scroll through the settings which vary between 1% and 100% in 10% steps.

3.4.2.3. Present and **hold** the **"Admin"** tag for 5 seconds to activate the setting selected in 3.4.2.2. above.

3.4.3. **AUS - (Advanced User Structure).** By default the system always operates with the Basic User menu structure. If the Advanced user menu is turned on from the Basic menu then the Advanced menu will become active for a period of 20 minutes, thereafter reverting back to the Basic menu. If the Advanced user menu is turned ON from the Advanced Menu it remains permanently active until turned OFF.

3.4.3.1. Present and **hold** the **"Admin"** tag for 5 seconds to select the **AUS** options.

The display will indicate ON.

3.4.3.2. Present and **remove** the **"Admin"** tag to scroll vertically through the options:-

- **On** - Turns the Advanced Menu ON
- **OFF** - Turns the Advanced Menu OFF
- **" -- " -** Exits to previous menu

3.4.3.3. Present and **hold** the **"Admin"** tag for 5 seconds to activate the setting selected in 3.4.3.2. above.

3.4.4. **AtC - (Advanced Tag Control).** This menu enables additional **"Admin"** tags to be created.

Warning: Additional **"Admin"** tags is a security risk unless these tags are carefully monitored and controlled.

3.4.4.1. Present and **hold** the **"Admin"** tag for 5 seconds to select the **AtC** option. The symbol will be displayed.

3.4.4.2. Present the tag whose admin rights are to be changed. The current rights will be displayed (either ON or OFF).

3.4.4.3. Repeatedly present and remove a master tag, selecting either "Admin" rights On, OFF or ... (escape).

3.4.4.4. When required setting is displayed, present and hold a master tag until is displayed. The tag's admin rights have now been updated.

3.4.5. **bnr - (Backup and Restore).**

3.4.5.1 **bup (Backup)**

3.4.5.2 **rSt (Restore)**

3.4.6. **PCS - (P.C. System)** Allow the user to specify if a P.C. is connected to the L1000.

3.4.7. **SUP - (Supply Voltage)** Display the current supply voltage .

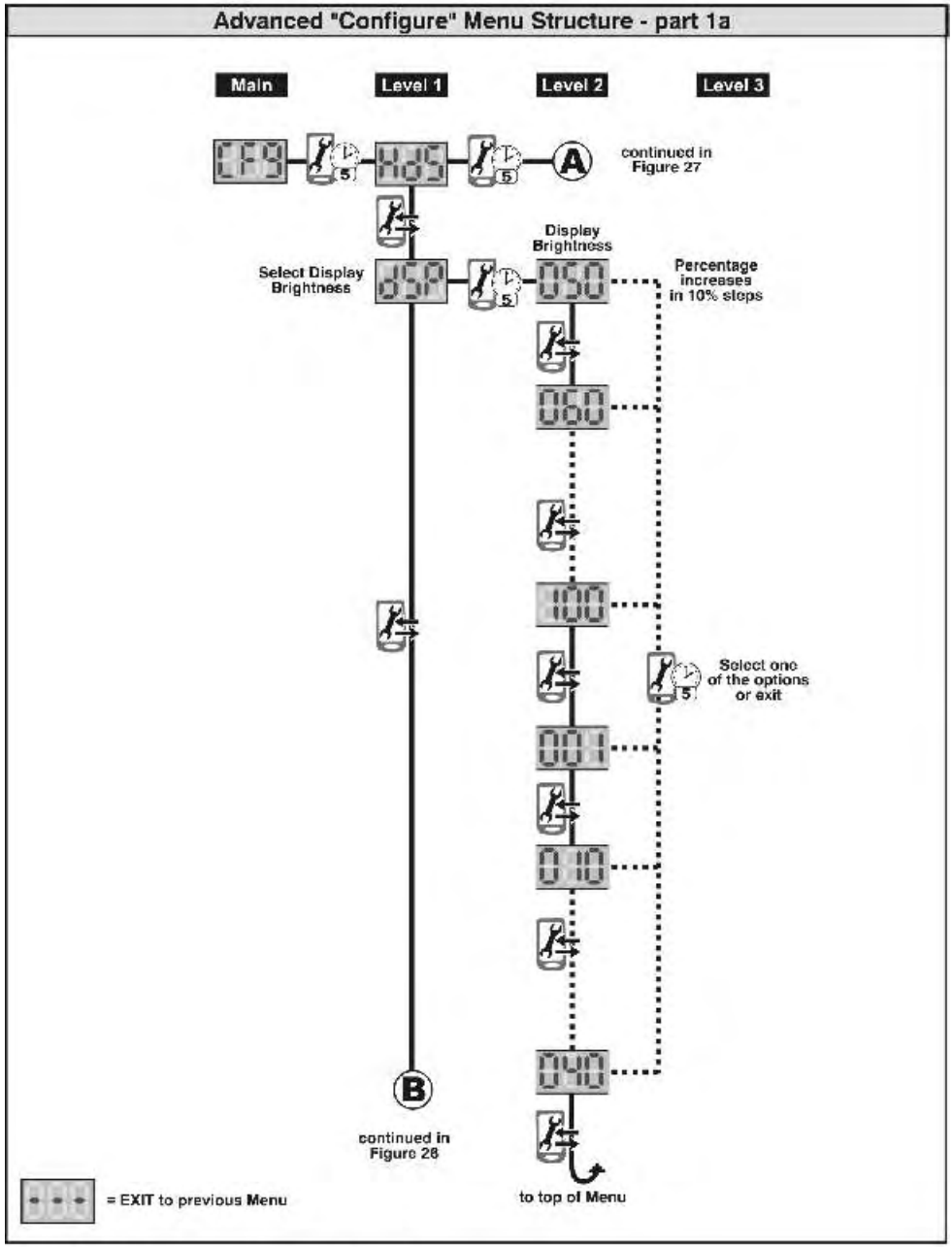


Fig 25 Part 1a of Advanced "Configure" Structure

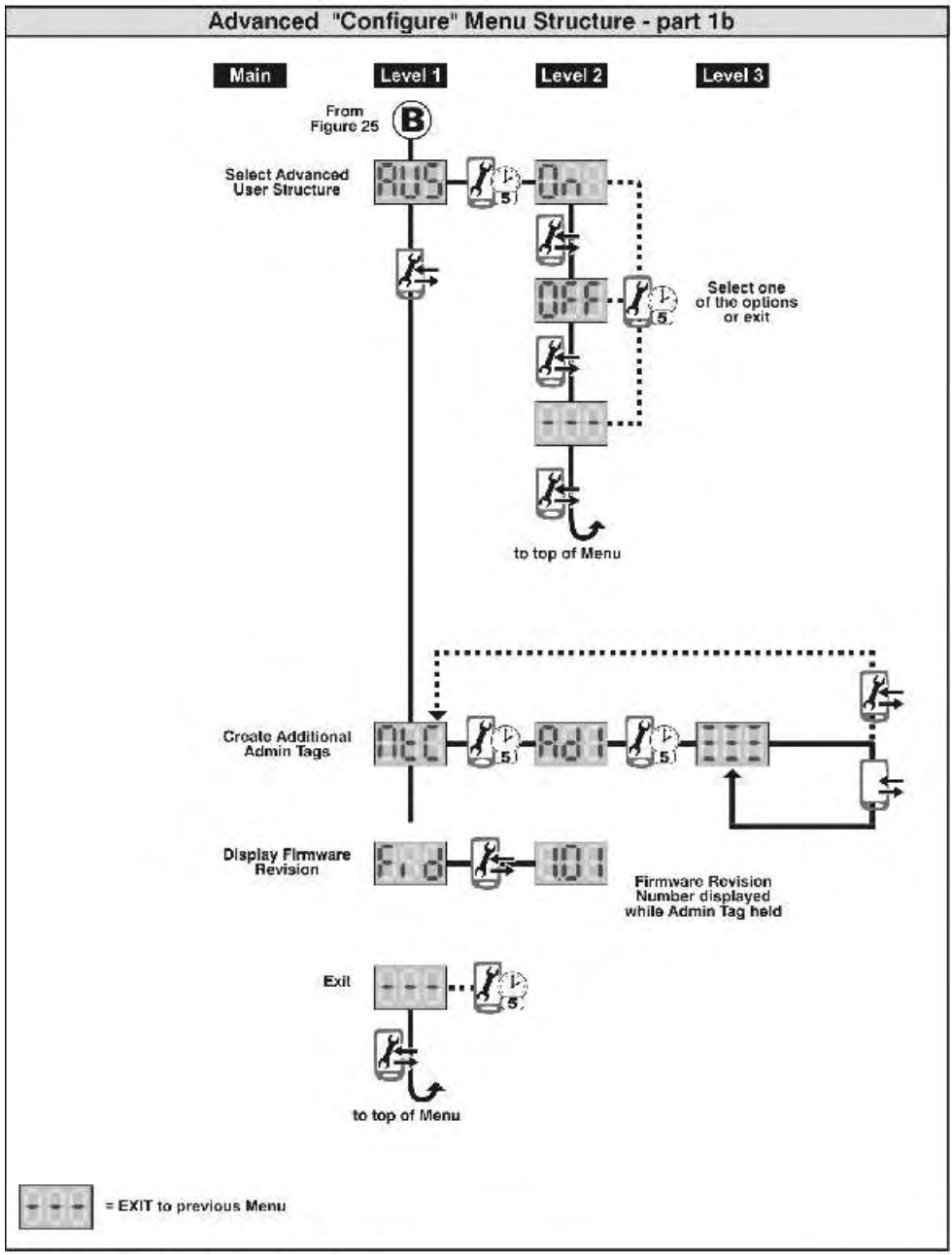


Fig 26 Part 1b of "Configure" Menu Structure

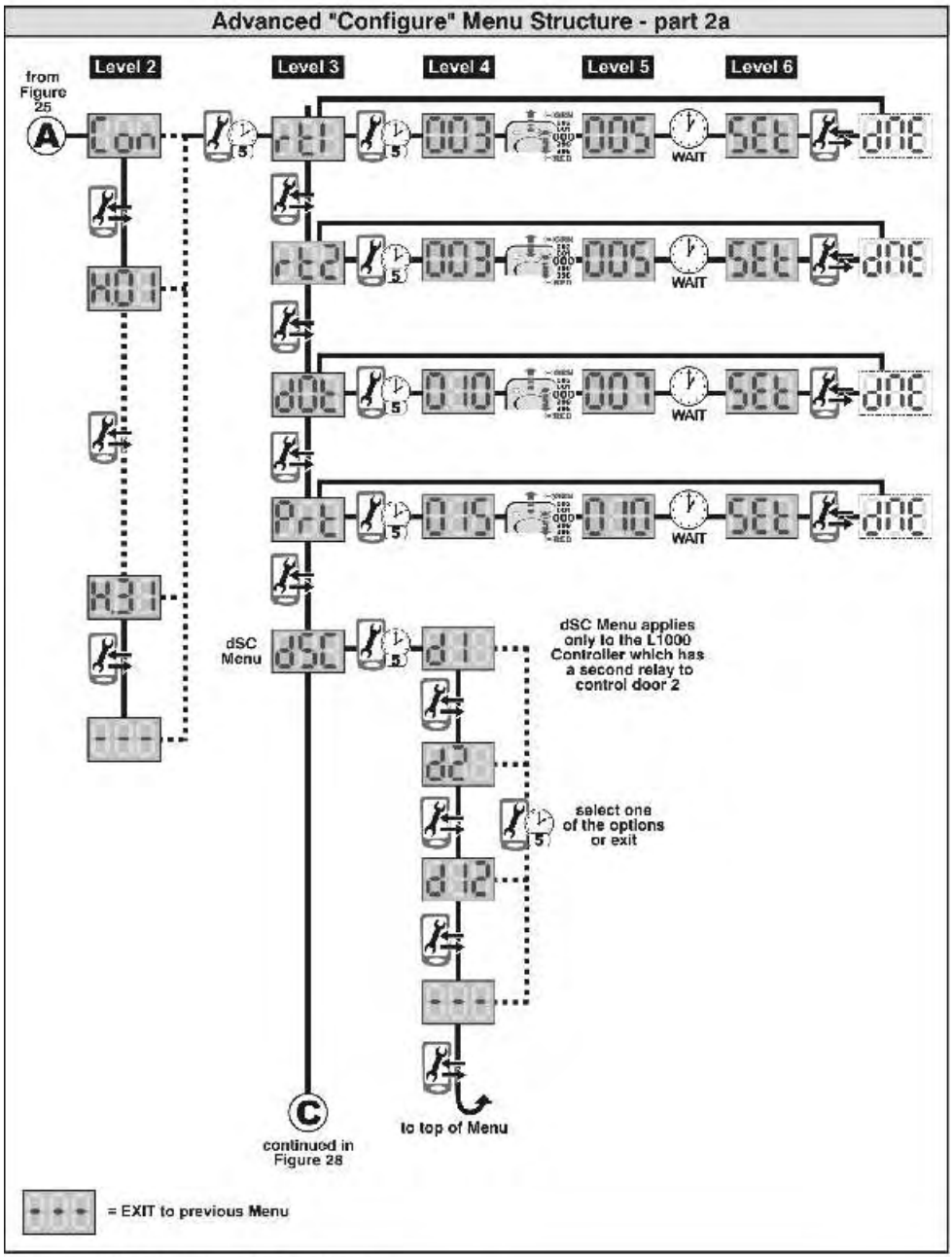

Advanced "Configure" Menu Structure - part 2a
from Figure 25
Level 2
Level 3
Level 4
Level 5
Level 6
WAIT
dSC Menu
dSC Menu applies only to the L1000 Controller which has a second relay to control door 2
select one of the options or exit
to top of Menu
continued in Figure 28
= EXIT to previous Menu

Fig 27 Part 2a of "Configure" Menu Structure

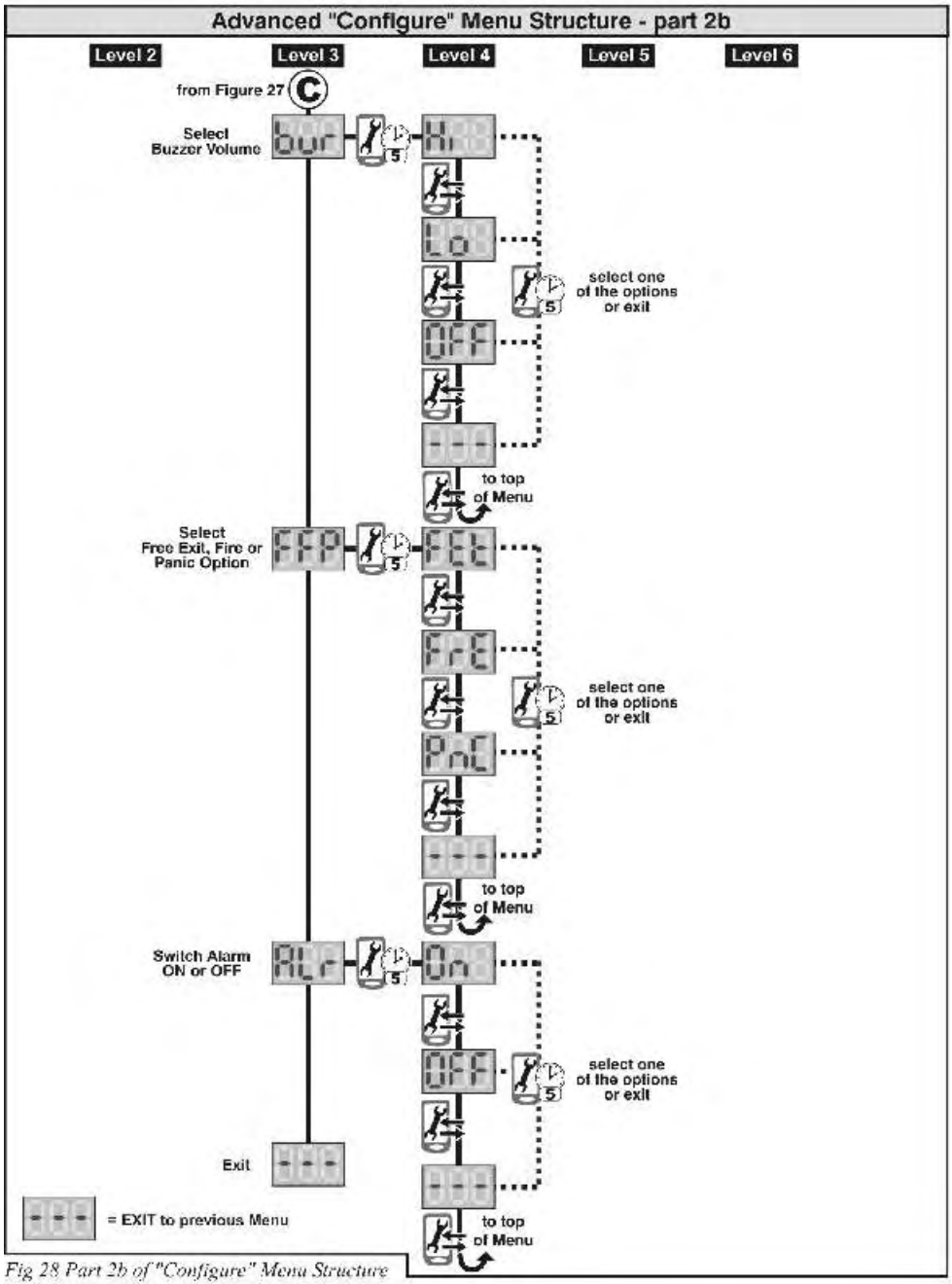


Fig 28 Part 2b of "Configure" Menu Structure

4. Update Menu

The fourth main menu item is the **"UPd"** (update) menu. This menu provides the ability to update parameters on existing tags. This menu would be used where, say, the APB levels needed to be changed on an existing tag, or range of tags. It is possible to update in one of the following ways:

- By **ALL** - (i.e. changes are made globally to all tags in the system)
- By **Id** - (i.e. where the tag is not actually available for updating physically, but where the tag or series of tags belonging to a specific group, or ID number, is known.)
- By **tAg** - (i.e. where the specific tag or tags are physically available for the changes to be made)
- By **Hd** - (This is where changes can be made to tags which pertain to a specific head). This is further broken down so that updates can be done by:
  - **Hd** - (i.e. changes are made to all tags pertaining to a specific head.
  - **Id** - (i.e. where the tag is not actually available for updating physically. In this case the user is presented with only the list of tags that exist for this head. Other tags may be valid for other heads, but will not be shown.
  - **tAg** - (i.e. where the tag update will be for this specific head only)

The update mechanisms are described fully below referring to the Update menu structure (shown in Figures 29, 30, 31 and 32)

Description of the Update Menu

4.1. The **"Admin"** tag is presented and **held** (for 5 seconds) to get from **"UPd"** of the "Main" menu to where the display indicates **"ALL"**, i.e from the Main menu to Level 1.

4.2. Decide on how tags are to be deleted as follows:

4.2.1. Present and **remove** the **"Admin"** tag to scroll the display vertically, allowing update of tags by either

4.2.1.1. **ALL -** updates tags globally across the network)

4.2.1.2. **Id -** (updates tag, or tags, belonging to a specific identification numbers (or group) selectively to any reader (head) in the network)

4.2.1.3. **tAg -** (updates only the physical tag presented but changes Stet(i.e. Was4. correct) applied selectively to any reader (head) in the network)

4.2.1.4. **Hd -** (updates for a specific head the tags normally valid at that head. All tags relating to that head can be updated, or only tags relating to a specific ID, or only specific tags)

4.2.1.5.-**A**- (Saves any updates made, and exits back to the previous level)

4.3. Once a decision is made of how tags are to be deleted in 2.1 above then the **"Admin"** tag Is presented and held for 5 seconds to move from level 1 to level 2.

4.3. The specifics of each different update mechanism (selected in 2.1 above) is described more fully below:

4.3.1. **Update "ALL".** If update **"ALL"** is selected by presenting and holding the **"Admin"** tag, then the display will indicate **"NO"**.

4.3.1.1. If **"NO"** is selected by presenting and holding the **"Admin"** tag for 5 seconds, the system will revert back to **"ALL"**. This is the escape route if it is decided NOT to

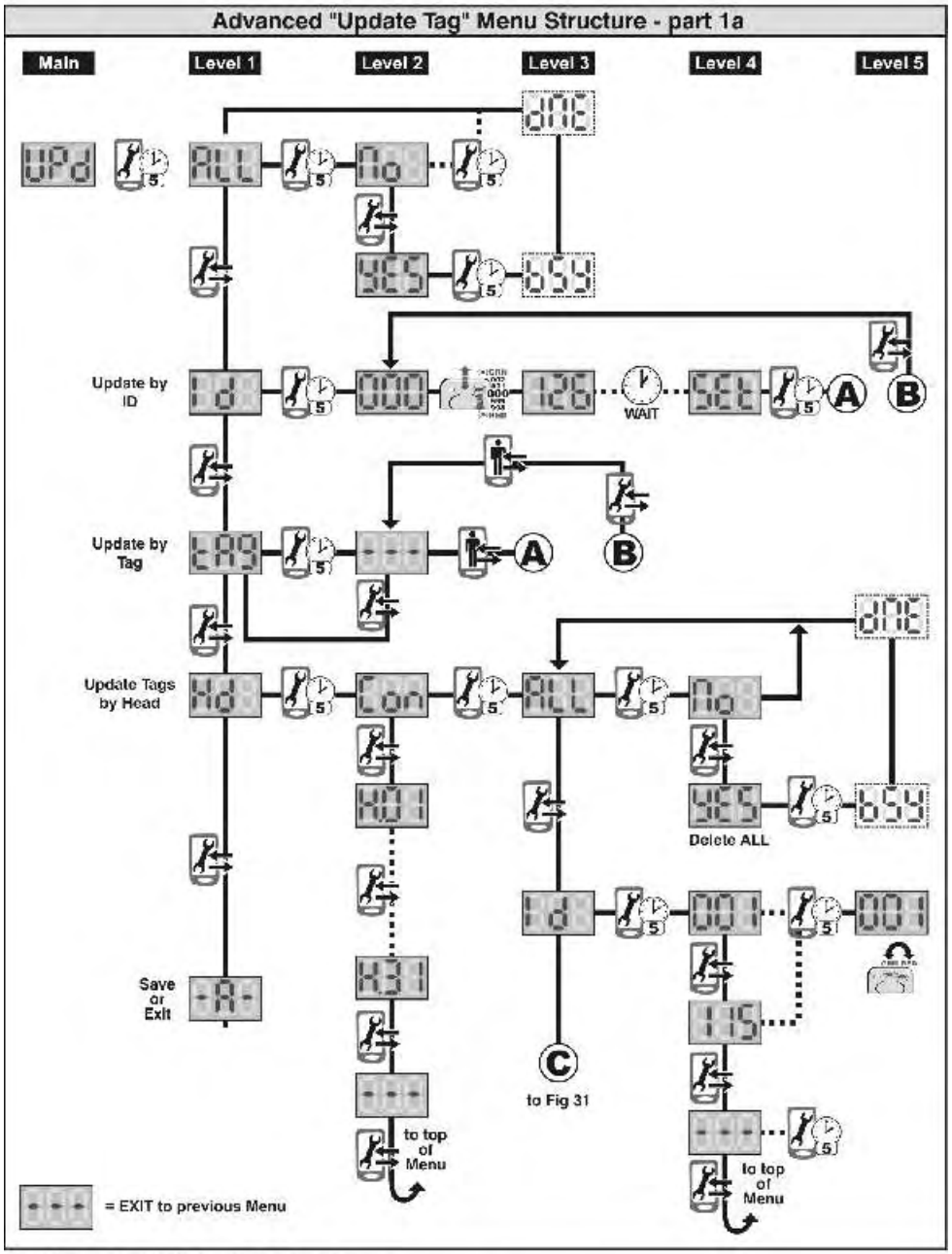


Fig 29 Part 1a of "Update Tag" Menu Structure

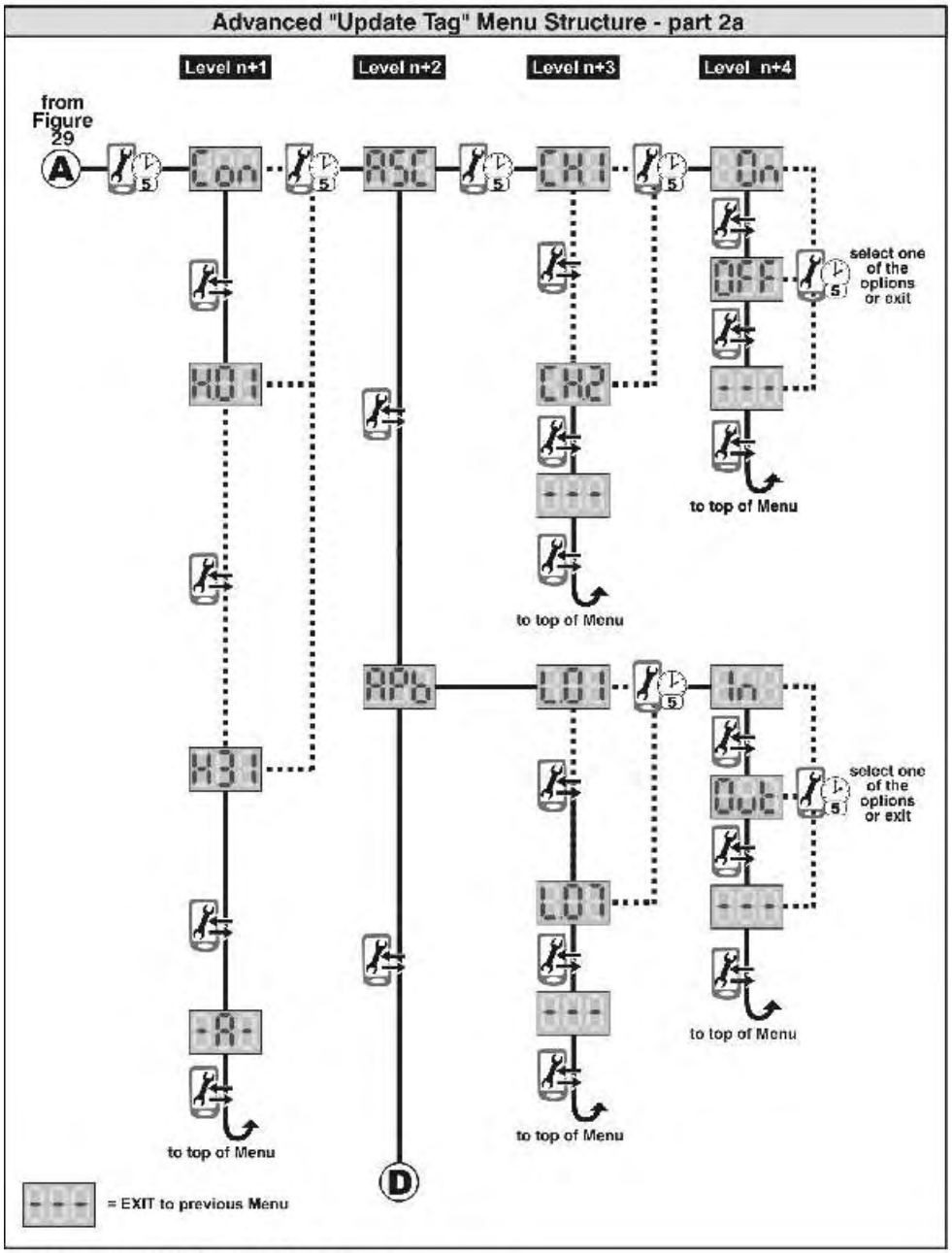


Fig 30 Part 2a of "Update Tag" Menu Structure

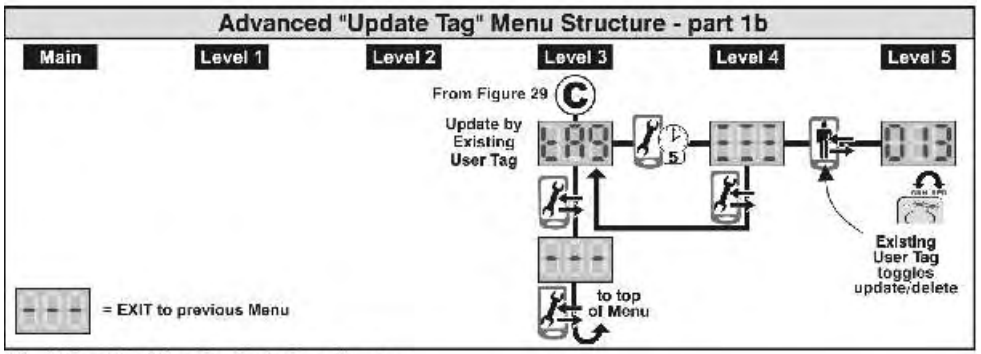


Fig 31 Part 1b of "Update Tag" Menu Structure

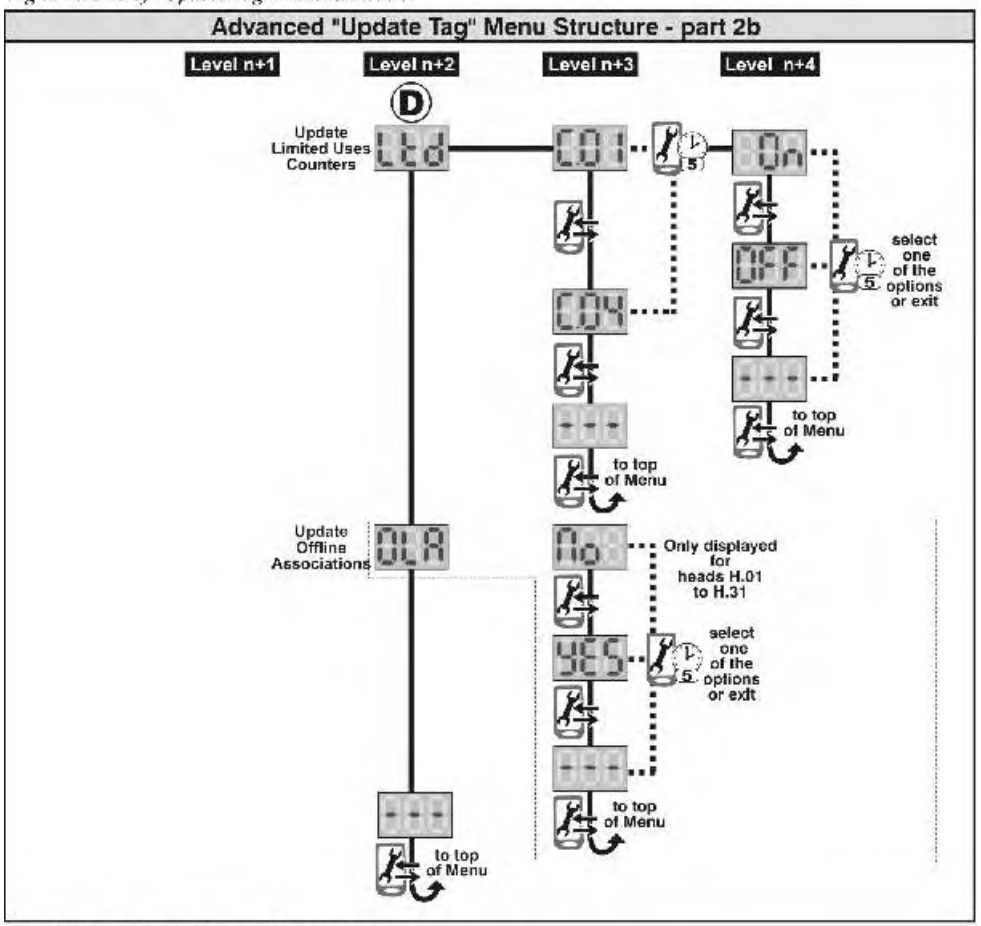


Fig 32 Part 2b of "Update Tag" Menu Structure

4.1. The "**Admin**" tag is presented and **held** (for 5 seconds) to get from "**UPd**" of the "Main" menu to where the display indicates "**ALL**", i.e from the Main menu to Level 1.

4.2. Decide on how tags are to be deleted as follows:

4.2.1. Present and **remove** the "**Admin**" tag to scroll the display vertically, allowing update of tags by either

4.2.1.1. **ALL -** updates tags globally across the network)

4.2.1.2. **Id -** (updates tag. or tags, belonging to a specific identification numbers (or group) selectively to any reader (head) in the network)

4.2.1.3. **tAg** - (updates only the physical tag presented but changes Stet(i.e. Was4. correct) applied selectively to any reader (head) in the network)

4.2.1.4. **Hd** - (updates for a specific head the tags normally valid at that head. All tags relating to that head can be updated, or only tags relating to a specific ID, or only specific tags)

4.2.1.5.**-A-** (Saves any updates made, and exits back to the previous level)

4.3. Once a decision is made of how tags are to be deleted in 2.1 above then the **"Admin"** tag Is presented and held for 5 seconds to move from level 1 to level 2.

4.3. The specifics of each different update mechanism (selected in 2.1 above) is described more fully below:

4.3.1. **Update "ALL".** If update **"ALL"** is selected by presenting and holding the "**Admin"** tag, then the display will indicate "**NO**".

4.3.1.1. If **"NO"** is selected by presenting and holding the **"Admin"** tag for 5 seconds, the system will revert back to "**ALL**". This is the escape route if it is decided NOT to update all tags.

4.3.1.2. If the **"Admin"** tag is presented and **removed** while **"NO"** is visible, the display scrolls vertically down to **"yES"**. If **"yES"** is selected by presenting and **holding** the "**Admin"** tag for 5 seconds, then the system will link all tags existing in the system to all heads. The display will temporarily (depending on the number of tags to be updated) flash up the text "**bSy**" (an abbreviation for busy) and then the text **"dnE"** (an abbreviation for Done) to indicate all the tags have been updated.)

4.3.2.**Update by "Id".** If update by ID was selected then the display will be indicating ID numbe r "000".

4.3.2.7. The various options presented in level **n+3** depend on what was selected in level N+2. For example:

4.3.2.7.1. If **"ASC"** was selected then channel 1 or 2 (only channel 1 can be selected for RSH's) is first chosen by scrolling vertically through **Ch.1**, **Ch.2** (or "**---**" if exit to a previous level is required) by presenting and removing the "**Admin**" tag. The resultant choice is selected by presenting and holding the "**Admin**" tag for 5 seconds.

4.3.2.7.2. If **"APb"** was selected then an anti-pass back level **L.01** to **L.07** is first chosen by scrolling vertically through the levels **L.01** to **L.07** (or "**--**" if exit to a previous menu is required) by presenting and **removing** the "**Admin**" tag. The resultant choice is selected by presenting and **holding** the **"Admin"** tag for 5 seconds.

4.3.2.7. The various options presented in level **n+3** depend on what was selected in level N + 2. For example:

4.3.2.7.1. If **"ASC"** was selected then channel 1 or 2 (only channel 1 can be selected for RSH's) is first chosen by scrolling vertically through **Ch.1**, **Ch.2** (or **"---"** if exit to a previous level is required) by presenting and removing the **"Admin"** tag. The resultant choice is selected by presenting and holding the **"Admin"** tag for 5 seconds.

4.3.2.7.2. If **"APb"** was selected then an anti-pass back level **L.01** to **L.07** is first chosen by scrolling vertically through the levels **L.01** to **L.07** (or **"---"** if exit to a previous menu is required) by presenting and **removing** the **"Admin"** tag. The resultant choice is selected by presenting and **holding** the **"Admin"** tag for 5 seconds.

4.3.2.7.3. If **"Ltd"** was selected then a limited uses counter **C.01** to **C.04** is first chosen by scrolling vertically through the list **C.01** to **C.04** (or **"---"** if exit to the previous level is required) by presenting and **removing** the **"Admin"** tag. The resultant choice is selected by presenting and **holding** the **"Admin"** tag for 5 seconds.

4.3.2.7.4. If **"OLA"** was selected (applies only to a RSH) then the **"No"** or **"Yes"**, (or **"---"** if exit to the previous level is required) selection is made by presenting and **removing** the **"Admin"** tag. **"No"** means that the head will NOT allow a tag to operate at the RSH when the head is off line (i.e. not linked via the RS485 network). **"Yes"** specifies that the head will permit valid tags to operate, even off-line.

4.3.2.8. The various options presented in level n+4 depend on what was selected in level N + 3. For example:

4.3.2.8.1. Depending on whether **CH.1** or **CH.2** was selected then its associated relay can be set to be **"On"** or **"OFF"** by scrolling vertically through the options **"On"**, **"OFF"** (or **"---"** if exit to a previous level is required) by presenting and **removing** the **"Admin"** tag. The selection is confirmed by presenting and **holding** the **"Admin"** tag for 5 seconds.

4.3.2.8.2. Depending on which of the **"APb"** levels **L.01** to **L.07** was previously selected, the choice of whether this reader is at the "entrance" or "exit" to an APB zone, defined by the **"In"** or **"Out"** selection respectively, is made by scrolling vertically through the options **"In"**, **"Out"** (or **"---"** if exit to a previous level is required) by

4.3.2.9. Once **"Con"** and, optionally, heads **H.01** to H.31 are set, it is critical that **-A-** in level **n+1** is selected (i.e. present and **hold** the **"Admin"** tag) to save all the settings that may have been made. The system will flash up the text **"ScS"** (an abbreviation for success) if the tag, or tags, under this ID are updated, and will revert back to the start by displaying **"Id"**.

4.3.3. **Update by "tAg".** If update by **"tAg"** was selected then the display will look as follows:

4.3.3.1. Present the tag to be updated.

4.3.3.2. The display will indicate **"Con"** (see part 2 of 2 on the Update Menu)

4.3.2.9. Once **"Con"** and, optionally, heads **H.01** to H.31 are set, it is critical that **-A-** in level **n+1** is selected (i.e. present and **hold** the **"Admin"** tag) to save all the settings that may have been made. The system will flash up the text **"ScS"** (an abbreviation for success) if the tag, or tags, under this ID are updated, and will revert back to the start by displaying **"Id"**.

4.3.3. **Update by "tAg".** If update by **"tAg"** was selected then the display will look as follows:

4.3.3.1. Present the tag to be updated.

4.3.3.2. The display will indicate **"Con"** (see part 2 of 2 on the Update Menu)

4.3.3.3. The steps to be taken for updating a tag are identical to those for ID (see 4.3.2.4 to 4.3.2.8.4).

4.3.3.4. Once "**Con**" and, optionally, heads H.01 to H.31 are set, it is critical that **-A-** in level **n+1** is selected (i.e. present and **hold** the correct **"Admin"** tag) to save all the settings that may have been made. The system will flash up the text "**ScS**" (an abbreviation for success) if the tag is updated, and will revert back to If the **"Admin"** tag is presented and removed at the symbol then the system will exit back to tag.

4.3.4. **Update by "Hd".** If update by **"Hd"** was selected the display will be indicating "**Con**" (controller)

4.3.4.1. Select the head (i.e. reader) at which tags need to be updated by scrolling vertically through the attached heads "**Con**", and any RSH's shown as **H.01** to **H.31** (only those linked at the time will reflect) by presenting and **removing** the "**Admin**" tag.

4.3.4.2. Once the head is selected the display will move from level 2 to level 3 by indicating **"ALL"** (Update all tags in this head). At this stage there are a number of different ways in which the tags can be updated.
Viz:

4.3.4.2.1. Update all tags in the head selected by selecting **"ALL"**

4.3.4.2.2. Update tags in this head by ID number. The system will automatically prompt the user with only those ID's actually stored in this head.

4.3.4.2.3. Update tags using specific available tags

4.3.4.3. Selection of **"ALL"**, **"Id"**, **"tAg"**, or **"---"** (exit to previous menu) is done by presenting and removing the **"Admin"** tag.

4.3.4.4. If **"ALL"** tags must be updated move to level 4 by presenting and **holding** the **"Admin"** tag.

4.3.4.4.1. Rotate vertically through the selections **"nO"** (do NOT update all tags) **"yES"** (update all tags), or **"---"** (exit to previous menu) by presenting

4.3.4.5. If update by **"Id"** is required move to level 4 by presenting and **holding** the **"Admin"** tag.

4.3.4.5.1. The display will indicate the lowest ID number stored in the system (e.g. 001 in this example) as well as either the red or the green LED. The green LED indicates that the tag is linked to this head, while the red LED indicates that the tag is NOT operational at this head.

4.3.4.5.2. Scrolling vertically through the list of all ID's stored in the head can be done by presenting and **removing** the **"Admin"** tag.

4.3.4.5.2.1. If the status of any tag needs to be changed for this head, present and **hold** the "**Admin**" tag until the centre green LED

4.3.4.5. If update by "**Id**" is required move to level 4 by presenting and **holding** the "**Admin**" tag.

4.3.4.5.1. The display will indicate the lowest ID number stored in the system (e.g. 001 in this example) as well as either the red or the green LED. The green LED indicates that the tag is linked to this head, while the red LED indicates that the tag is NOT operational at this head.

4.3.4.5.2. Scrolling vertically through the list of all ID's stored in the head can be done by presenting and **removing** the "**Admin**" tag.

4.3.4.5.2.1. If the status of any tag needs to be changed for this head, present and **hold** the "**Admin**" tag until the centre green LED swops to the RHS red LED, or vice versa. ALL ID's displayed with the red LED illuminated will be deleted from this head. If these tags are deleted from the L1000, they will, in future, display as "**ASC**" and not show their old ID number.

4.3.4.6. If update by "**tAg**" is required move to level 4 by presenting and **holding** the

5. Copy Menu

The fifth menu on the main menu is the copy menu. This menu together with the "template" menu (described later) provides the facility to copy all the settings existing on a specific tag to others. This is a very convenient and easy way to set-up tags on a system.

There are two main ways in which tags can be copied:

- The first is a known as "duplicate" where an existing tag is presented to the L1000 and any new tags then presented to the reader are copied. This means that the supervisor could keep a few extra, labelled, tags which have the settings of groups of people stored on those tags. If a new member has to be added to any of those groups and a tag needs to be created with those parameters, the supervisor simply gets into the duplicate menu, presents his "**master**" for that group to the readers and then copies new tags with this group's details.
- The second method creates and stores a "template" in memory (see Template menu) which has all the parameters of a tag stored in it. This template can either be created from scratch, (in a manner virtually identical to learning a new tag), or by simply copying the parameters from an existing tag into the template. Once a template exists, any new tags are simply copied from this template to the new tags. Only one template can exist at any one time.

The process is very simple and is shown in the Copy menu structure in Figure 33.

As will be seen from the structure there are three distinct ways in which tags can be copied:

- **DUP** - Duplicates an existing tag. Any tag which the system already has stored in memory can become a template. Multiple new tags can then be presented to take on the parameters of the existing tag.
- **Id** - The programme will copy the template into a selected starting ID. The first new tag presented will take on this selected ID. Any subsequent tags will increment the ID.
- **"n"** - (i.e. multiple tags (n) are learned to only one ID). The programme will copy the template into a selected starting ID. The first, and subsequent, new tags presented all take on this selected

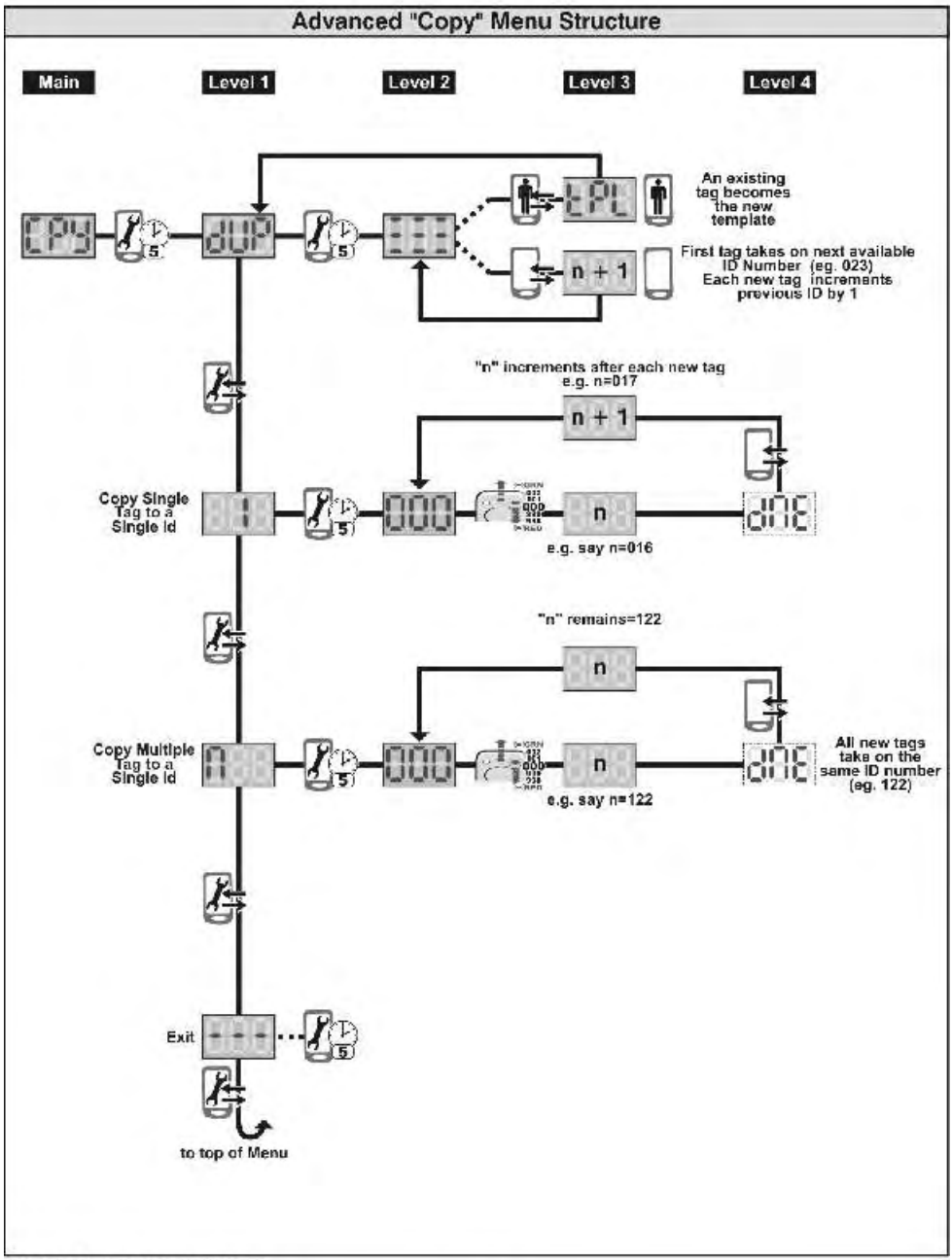


Fig 33 "Copy" Menu Structure

Description of Copy Process:

Note: Before a template can be copied as detailed below, it is necessary to first set up a template (see Template menu). If a template already exists, continue with these instructions.

5.1. Present and **hold** the **"Admin"** tag for 5 seconds to move from the main menu item **"CPy"**, to level 1. The display will indicate **"duP"** (an abbreviation for duplicate)

5.2. Presenting and **removing** the **"Admin"** tag to scroll the display vertically, allows deletion of tags by:-

- **dUP** - The template is taken from an existing tag and duplicated on any new tags presented,
- **1** - Each new tag copies the template and its ID Reference becomes the next available ID. i.e. There is only 1 tag per ID.
- **N** - Each new tag copies the template and is added to a designated group. i.e. there are "n" new tags added to the group.
- "–-" - Exit to previous menu

5.3. Present and **hold** the **"Admin"** tag for 5 seconds after a selection is made from the above.

5.4. If **"duP"** is selected the following symbol will be displayed. This indicates that a tag must be presented.

5.4.1. If an existing tag is presented to the reader, then the information from this tag will be duplicated to new tags. The display will indicate "tPL" (template) to indicate that this tag exists in the system, and has become the template.

5.4.2. Present one, or more, new tags to the reader in sequence. Each time a new tag is presented the display will indicate the ID number to which this tag has been assigned. The system will start with the next available, unassigned, ID when the first new tag is presented.

5.5. **"1"Copy** - If "1" is selected by presenting and **holding** the **"Admin"** tag for 5 seconds, the display will indicate "000".

NOTE: Remember that this sub-menu item assumes that a valid template exists in memory. If not go to the template setting menu.

5.5.1. Use the **"Admin"** tag and the red and green LED's to scroll to a required ID into which the first new tag to be copied should be entered. (e.g. Say n=016)

5.5.2. Present the first new tag to be learned. The display will momentarily flash up **"dnE"** (done) and then increment the ID by one indicating that this tag has been learned into the system. The display will now be at the incremented value, (e.g. n+1=017) now. If a second new tag in presented it will be allocated to this new incremented ID, etc, etc.

5.6. If **"n" - Copy Multiple Tags to Single Id.** is selected by presenting and **holding** the **"Admin"** tag for 5 seconds, the display will indicate "000".

5.6.1. Use the **"Admin"** tag and the red and green LED's to scroll to a required ID into which the first new tag to be copied should be entered. (e.g. say n=122)

5.6.2. Present the first new tag to be learned. The display will momentarily flash up **"dnE"** (done) and then revert back to the originally selected ID number (i.e. "n" remains at n=122). Additional new tags can be presented which will all be learned into this same ID number shown in the display.

6. Template Menu

The sixth and last Advanced menu item is the template menu. This menu provides a means of creating a tag template which can be copied to other tags. The template can be seen as a "virtual" tag that is stored in non-volatile memory of the L1000. Only one template can exist at any one time on the L1000. (See details of the Centurion Lattice-Ware software where multiple templates can be stored) The template menu structure is shown in Figure 34 and described in detail. There are three ways in which the template can be created:

- By creating the template from scratch using the programming functionality of the L1000 and setting up each menu item. This is virtually identical to "normal learn" for a new tag. The only difference is that the information is stored as a template instead of being applied to a tag. This is the sub-menu item **"USr"** on the menu structure.
- By selecting an existing ID and using the information stored under that D to create the template. **NOTE:** It is possible to have multiple tags all with different parameters stored under a single ID. If an ID is chosen that has multiple tags then the system will use the parameters of the tag stored in the first memory location as the template. This is the sub-menu item **"ID"** on the menu structure.
- By copying the information stored on an existing tag into template memory. This is the sub-menu item **"tAg"** on the menu structure.

Description of Template Process:

Using the "Template menu structure" as a guide the following steps are followed:

6.1. The **"Admin"** tag is presented and held (for 5 seconds) to get from **"tPL"** of the **"Admin"** menu to where the display indicates **"USR"**. i.e from the Main menu to Level **1**.

6.2. Four options exist under level 1 by presenting and **removing** the **"Admin"** tag.

6.2.1. Present and **remove** the **"Admin"** tag to scroll the display vertically, allowing template creation by either

- **Id** - where a template is extracted from the first tag existing in a selected ID number.
- **tAg** - where a template is extracted from an existing tag.
- **"---"** -"exit back to "tPL" main menu
- **Id** - where a template is extracted from the first tag existing in a selected ID number.

6.2.2. Present and **hold** the **"Admin"** tag for 5 seconds after a selection is made in 6.2.1.

6.3. If **"USr"** is selected the system moves from level 1 to level 2. The change from level 1 to level 2 is shown by the fact that the display changes from **"USr"** to **"Con"** (abbreviation for controller i.e. the L1000).

6.3.1. If the **"Admin"** tag is presented and **removed**, the display will scroll vertically through the list showing any connected readers, indicated as **"Con"** (for the L1000 head) and **"H.01"** to **"H.031"** (for any RSH's physically attached to the RS485 network). This enables the settings of levels 3 onwards to be set individually on any attached reader. After the last attached head is shown the display indicates **-A-**. This is the display symbol to indicate SAVE or EXIT. Once **"Con"** and, optionally, heads **H.01** to **H.31** are set, it is critical that **-A-** is selected (present and **hold** the **"Admin"** tag) to save all the settings that may have been made to levels 3 onwards for all the readers.

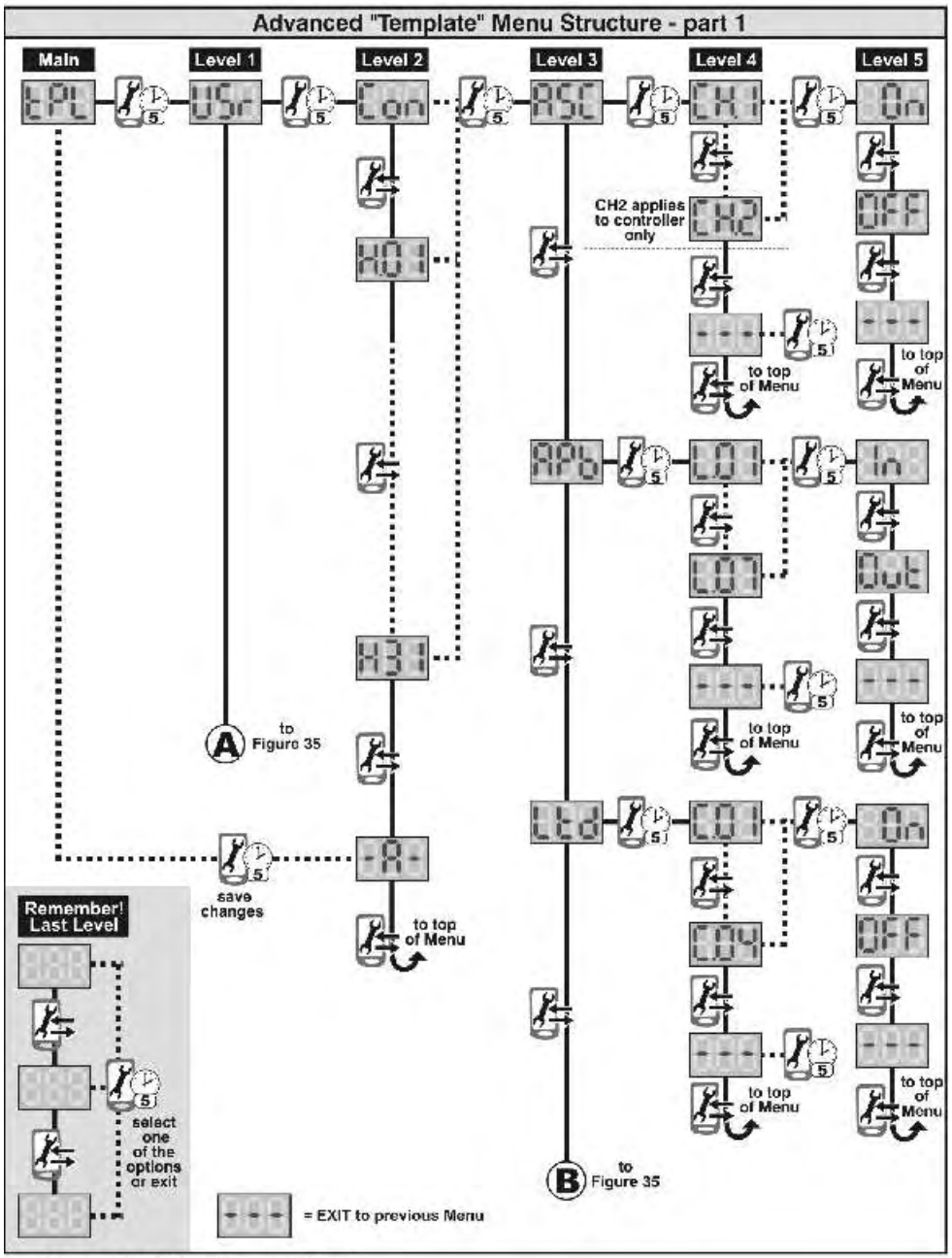


Fig 34 "Template" Menu Structure- Part 1

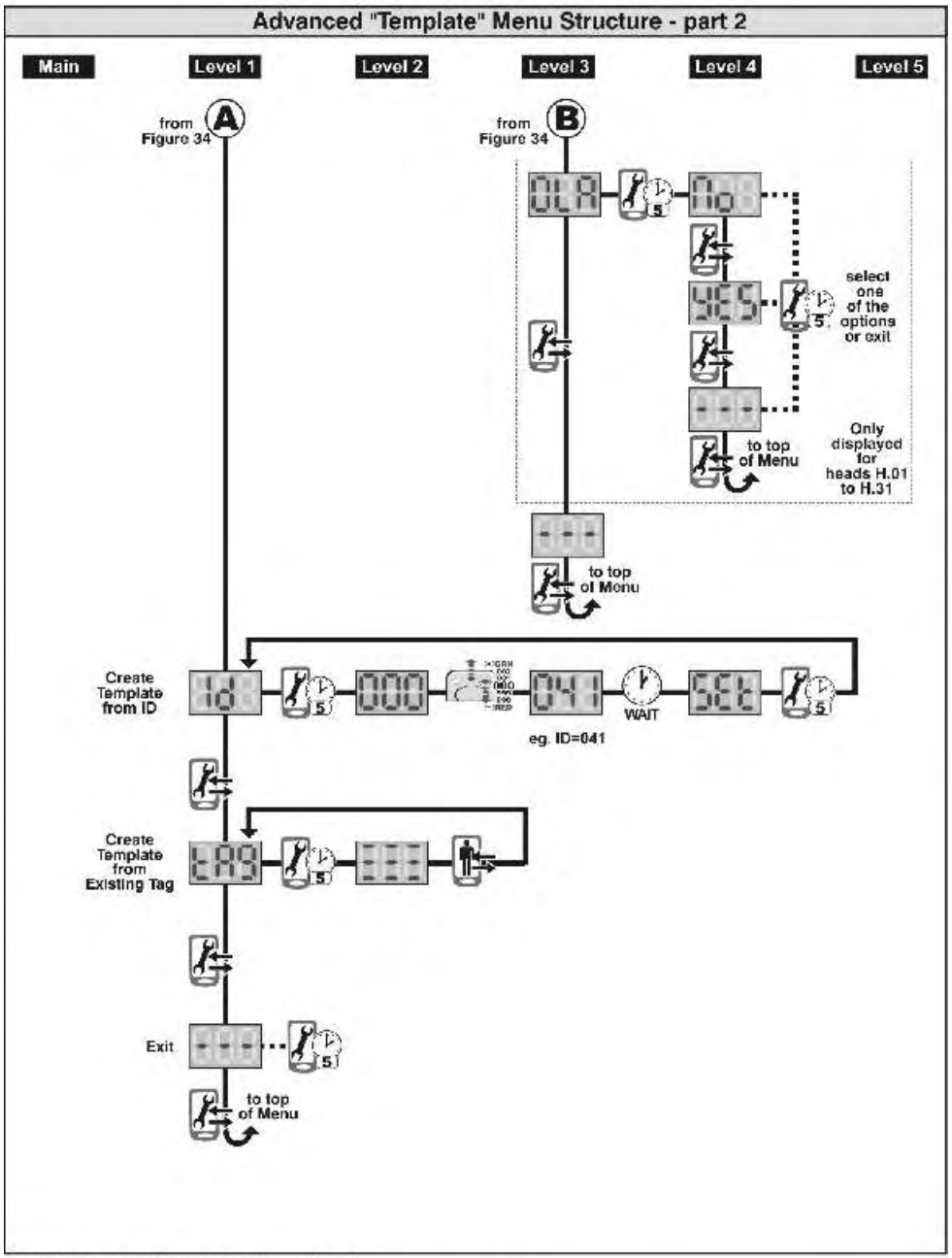


Fig 35 "Template" Menu Structure- Part 2

6.3.2. Once a reader is selected (as per 3.1. above), the display is moved from level 2 to level 3 by presenting and **holding** the **"Admin"** tag. e.g. if **"Con"** is displayed and the **"Admin"** tag is presented and **held** (for at least 5 seconds) the display will change from **"Con"** to **"ASC"**.

6.3.3. By presenting and removing the **"Admin"** tag scroll vertically through the level 3 options:

- **ASC** - (associations)
- **APb** - (anti-pass back)
- **Ltd** - (Limited use counters)
- **OLA** - (Off-Line Access)

NOTE: The OLA menu will only appear for RSH's. It does not apply to the L1000.

- **"---"** or (Exit back to previous level)

6.4. Once a specific menu item in level 3 is decided upon, the display is moved, horizontally, from level 3 to level 4 by presenting and **holding** the **"Admin"** tag for 5 seconds. E.g. if **"ASC"** is displayed and the **"Admin"** tag is presented and **held** for 5 seconds then the display changes from **"ASC"** to **"CH.1"**

6.5. The various options presented in level **4** depend on what is selected in level 3. For example:

6.5.1. If **"ASC"** is selected then channel 1 or 2 is first chosen by scrolling vertically through:

- **Ch.1** - (Relay on Channel 1 selected)
- **Ch.2** - (Relay on Channel 2 selected)
- "---" - (if exit to a previous level is required) (The selection is made by presenting and **removing** the **"Admin"** tag for 5 seconds. E.g. if **"ASC"** is displayed and the **"Admin"** tag is presented and **held** for 5 seconds, then the display changes from **"ASC"** to **"CH.1"**)

6.5.2. If **"APb"** is selected then an anti-pass back level **L.01** to **L.07** is first chosen by scrolling vertically through the levels

- **L.01** - (Level 1)
- **L.02** - (Level 2)
- **L.03** - (Level 3)
- **L.04** - (Level 4)
- **L.05** - (Level 5)
- **L.06** - (Level 6)
- **L.07** - (Level 7)
- "—" - (if exit to a previous menu is required). (The selection in 6 is made by presenting and **removing** the **"Admin"** tag. The resultant choice is selected by presenting and **holding** the **"Admin"** tag for 5 seconds.)

6.5.3. If **"Ltd"** is selected then a limited use counter **C.01** to **C.04** is first chosen by scrolling vertically through the list vertically through the levels

- **C.01** - (Counter 1)
- **C.02** - (Counter 2)
- **C.03** - (Counter 3)
- **C.04** - (Counter 4)
- **"---"** - (if exit to a previous menu is required). (The selection in 6 is made by presenting and **removing** the **"Admin"** tag. The resultant choice is selected by presenting and **holding** the **"Admin"** tag for 5 seconds.)

6.5.4. If **"OLA"** is selected (applies only to a RSH) then one of the options

- **No** - (means that the head will NOT allow a tag to operate at the RSH when the head is off line (i.e. not linked via the RS485 network.)
- **YEs** - (specifies that the head will permit valid tags to operate, even off-line)

- "---" -(if exit to the previous level is required) (The selection is made by presenting and **removing** the **"Admin"** tag.)

6.6. The various options in level 5 depend again on what is selected in level 4. For example:

6.6.1. Depending on whether **CH.1** or **CH.2** is selected in the **ASC** sub-menu then its associated relay can be set to be **"On"** or **"OFF"** by scrolling vertically through the options.

- **On** - (Relay is turned ON)
- **OFF** - (Relay is turned OFF)
- "---" - (if exit to the previous level is required) (The selection is made by presenting and **removing** the **"Admin"** tag.)

6.6.2. Depending on whether CH.1 or CH.2 is selected in the **ASC** sub-menu then its associated relay can be set to be **"On"** or **"OFF"** by scrolling vertically through the options.

- **On** - (Relay is turned ON)
- **OFF** - (Relay is turned OFF)
- "---" - (if exit to the previous level is required) (The selection is made by presenting and **removing** the **"Admin"** tag.)

6.6.3. Depending on which of the **"APb"** levels **L.01** to **L.07** was previously selected in the **Ltd** menu, the choice of whether this reader is at the "entrance" or "exit" to an APB zone, defined by the **"In"** or **"Out"** selection respectively is made by scrolling vertically through the options

- **On** - (Entering APB level)
- **OFF** - (Exiting APB level)
- **"---"** - (if exit to a previous level is required) by presenting and **removing** the **"Admin"** tag for 5 seconds.

6.6.4. Depending on which of the counters **C.01** to **C.04** was previously selected in the **Ltd** menu, the choice of whether this counter must be operational for this reader is selected by scrolling vertically through the options

- **On** - (Counter will be operational at this Lead)
- **OFF** - (Counter will not be operational at this Lead)
- **"---"** - (if exit to a previous level is required) (The selection is confirmed by presenting and **holding** the **"Admin"** tag for 5 seconds.)

Once **"Con"** and, optionally, heads **H.01** to **H.31** are set, it is critical that **-A-** in level 2 (see section 3.2) is selected (i.e. present and **hold** the **"Admin"** tag) to save all the settings that may have been made to levels 3 onwards to the template. The system will exit back to level 1 and display **"USr"**.

6.7. If **"Id"** was selected in level 1 (by presenting and **holding** the **"Admin"** tag for 5 seconds) then the system will have moved to level 2 and the display will show **"000"**.

6.7.1. Use the **"Admin"** tag and the red and green LED's to scroll up, or down, to the ID which will used to generate the template. NOTE: the template information is taken from the first tag that exists in this ID. Remember that it is possible to have multiple tags within a single ID and each tag could have different information stored on it.

6.7.2. Once the correct ID has been chosen wait for approximately 5 seconds after which the display will indicate "Set"

6.7.3. Present and **hold** the **"Admin"** tag for 5 seconds and the template information will be saved and the display reverts to **"Id"**.

6.8. If **"tAg"** was selected in level 1 (by presenting and **holding** the **"Admin"** tag for 5 seconds) then the system will have moved to level 2 and the display will show

6.8.1. Presenting an existing tag. The information on this tag will be copied into the template memory, and the display will revert back to **"tAg"**.

Display Abbreviations

Summary of Display Abbreviations

Used during programming of the L1000 (continued overleaf)

	(...) Unlearned/New Tag
	Admin Tag (Type 1)
	Admin Tag Create
	Advanced Tag Control
	Advanced User Structure
	Alarm on/off Selection
	All (refers to all heads, or all tags, etc.)
	Anti-passback
	Association (refers to a tag not being linked to a reader, i.e. no association)
	Busy (flashes momentarily during updating or deleting tags)
	Buzzer
	Buzzer Volume set to High
	Buzzer Volume set to Low
	Channel 1(channel 2 can also exist on the L1000)
	Configure (refers to configuring of reader parameters)
	Controller (i.e. the L1000)
	Copy
	Counter 1 (refers to 1 of 4 limited use counters)
	Delete
	Display Brightness Settings
	Done (flashes momentarily to indicate a process is complete)

Summary of Display abbreviations used during programming of the L1000.

d1	Door forced alarm disabled on Door 1
d2	Door forced alarm disabled on Door 2
dOt	Door Open Time (before alarm sounds)
dSE	Door Sense Configuration
ErA	Erase All
---	Exit to previous menu
FrE	Fire (refers to FRX-FIRE input being used as a fire alarm input)
Fid	Firmware ID (revision)
101	Firmware Revision Number - Numeral indicative of the latest revision, e.g. V1.01
	Flashing bar to indicate normal run mode
FEt	Free Exit (refers to FRX-FIRE input being used as a free-exit input)
FFP	Free Exit, Fire or Panic Input Select Menu
FUL	Full (indicates that the memory is full)
Hd	Head (i.e. either the L1000 or a remote slave head)
H01	Head number 1 (i.e. a specific RSH between 1 and 31)
HdS	Head Settings eg. Relay times.etc.
Id	Identification number
000	Identity Number 000 (000 to 999 exist)
In	In (refers to direction of travel when moving through anti-pass back levels))
n+1	Indicates next arbitrary number = n + 1
n	Indicates some arbitrary ID number = n

Summary of Display abbreviations used during programming of the L1000.

	Learn (refers to either Quik Learn, or Normal Learn)
	Level 1 (refers to APB Level Number)
	Limited (refers to limited uses counter functionality)
	No (refers to rejection of a selection, etc.)
	Off (refers to whether a relay is Off/On, etc.)
	Off Line Access (refers to whether tags are valid off-line)
	On (refers to whether a relay is On/Off, etc.)
	Out (refers to exit direction during anti-pass back)
	Panic (refers to FRX-FIRE inpur being used as a Panic input)
	Present a new Tag
	Prewarn time (before door open prewarn sounds)
	Relay 1 Pulse Time (settings: 0=Off; Pulse Time 1 to 254, Latched=255)
	Save new tag into memory & exit to previous menu
	Set (Used to confirm use of an ID number)
	Success (flashes momentarily to indicate a process was successful)
	Power supply low
	Tag
	Template
	Update
	User (refers to template creation for a specific user)
	Yes (refers to acceptance of a selection, etc.)
	Hold of time

Icons and Symbols

Summary of Icons and Symbols used in Programming Menu Structures

Present & Remove Admin Tag
This icon symbolises that the "**Admin**" tag is presented and removed immediately (i.e. "Swiped" past the reader)

Present & Hold Admin Tag
This icon symbolises that the "**Admin**" tag is presented and held for 5 seconds

Present & Remove New Tag
This icon symbolises that an unlearned/new tag is presented and removed immediately (i.e.swipe new tag past the reader)

Present & Hold New Tag
This icon symbolises that an unlearned/new tag is presented and held for 5 seconds

Present & Remove Existing Tag
This icon symbolises that an existing user tag is presented and removed (i.e. Swiped" past the reader)

Present & Hold Existing Tag
This icon symbolises that an existing user tag is presented and held for 5 seconds

Wait
This icon symbolises that you should wait for a few seconds before progressing to the next level

Incrementation with the Admin Tag
This icon symbolises that the "Admin" tag is used to scroll the ID reference number numerically up or down one digit at a time by presenting and removing the "Admin" tag.The numbers scroll up when the green LED is ON and scroll down when the red LED is ON. If the tag is presented and held then the scrolling rate increases.

Programming Status Change
This icon symbolises that some programming status changes each time the "Admin" tag is presented and removed. The change is identified by the change in status of the red and green LED's on the L1000 front panel.

Additional References

Description of Document	Reference
Lattice Quick User Guide	1166.D.01.
LatticeWare Software Manual	1166.D.01.
Solo Standalone Proximity Reader	1166.D.01
Lattice Brochure	1166.D. 02.0003_2
Lattice Application Notes	1166.D.

Revision History

Firmware Revision	Manual Revision	Description of Changes
1.01	1	Original Issue

Installation Details

Installation Date: .....

Installer's Name: .....

Installer's Address:

Installer's Telephone Number: ..... Installation Checked By: .....

Notes

Notes

Notes

Centurion Systems (Pty) Ltd Head Office:

Tel: +27 (0)11-699-2400, Fax: +27 (0)11-704-3412 or (0)11-462-6669
(Omit (0) when dialing from outside South Africa)
148 Epsom Avenue, North Riding
P.O. Box 506, Cramerview, 2060
South Africa

Sharecall 0860-CENTURION

(Sharecall number applicable when dialed from within South Africa only)

or visit www.centsys.co.za for details of your nearest agent

For technical support, contact:

South African Branches and Regional Distributors:

Johannesburg Central/West Rand	011-699-2400
Johannesburg East-Rand	011-397-6401
Durban	031-701-9583
Nelspruit	013-752-8074/5
Pretoria	012-349-1745
Cape Town	021-552-9425
Port Elizabeth	041-581-6994/5
East London	043-743-4923
Bloemfontein	051-448-1714
Kimberly	053-832-3231
Vereeniging	016-422-5667

Other Countries:
Please refer to our website: www.centsys.co.za

Product Code:

ISO 9001 : 2000 REGISTERED FIRM

CE

Latest Revision: 22.02.2007
Document Ref.: 1166.D.01.0001_7
© 2007 Centurion Systems (Pty) Ltd.
Master address page: 0000.D.01.0004_3